ORDER NO. MKE0608855CE
B2

Service Manual

Multi Media Display

PT-56DLX76
PT-61DLX76
PT-61DLX26

PbF
Solder Lead free

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 Safety Precautions

1.1. General Guidelines

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC Plug before disassembling this unit.
3. It is advisable to use an isolation transformer in the AC supply before servicing.
4. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
5. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations etc. are properly installed.
6. After servicing, be sure to restore the wires, leads, insulation barriers, shields, etc.
7. After servicing, make the leakage current checks to prevent the customer from being exposed to shock hazards.

Caution:

Use a separate Isolation Transformer for this unit when servicing.

1.2. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. For physically operated power switches, turn power on. Otherwise skip step 2.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, connectors, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 MΩ and 12 MΩ. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. Leakage Current Hot Check

1. Plug the AC cord directly into the AC outlet.

   Do not use an isolation transformer for this check.
2. Connect "A" to exposed metallic part on the set. And connect "B" to a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 kΩ/V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.25 V RMS.

   A leakage current tester (Simpson Model 228 equivalent) may be used to make the hot checks. Leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

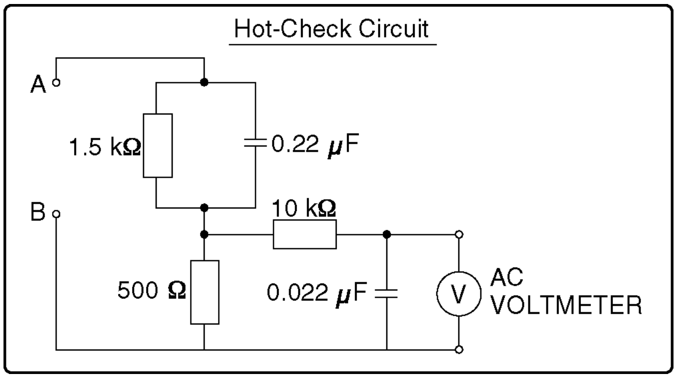


Figure 1

1.4. UV-Precaution

1. Be sure to disconnect the AC Plug when replacing the lamp.
2. Since the lamp reaches a very high temperature during its operation, wait until it has completely cooled off when replacing the Lamp Unit.
3. The lamp emits small amounts of UV-Radiation.

   Avoid direct-eye contact by covering the Lamp and wearing UV protective glasses.
4. The high pressure lamp involves a risk of explosion.

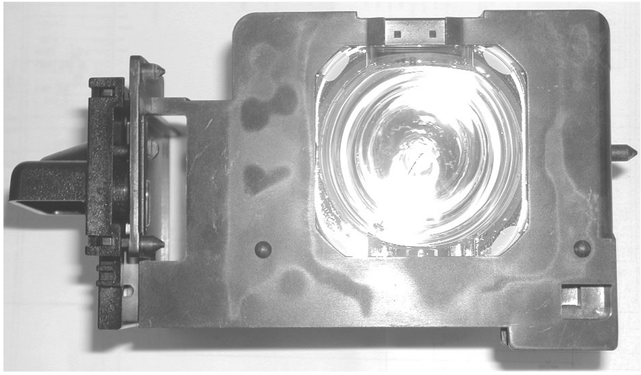


Figure 2

This product has a High Intensity Discharge (HID) lamp that contains a small amount of mercury. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

2 Warning

2.1. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   CAUTION :

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

3 Service Navigation

3.1. Introduction

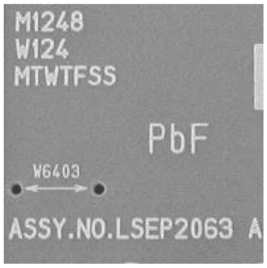
This service manual contains technical information which will allow service personnel´s to understand and service this model. Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

3.2. About Lead Free Solder (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.
(Please refer to figures.)



Printed case

CAUTION:

- **Pb free solder has a higher melting point than standard solder;
Typically the melting point is 50 °F - 70 °F (30 °C - 40 °C) higher.
Please use a soldering iron with temperature control and adjust it to 700 °F±20 °F (370 °C± 10 °C).
In case of using high temperature soldering iron, please be careful not to heat too long.**
- **Pb free solder will tend to splash when heated too high (about 1100 °F/600 °C).**
- **All products with a printed circuit board with PbF stamp or printing must be serviced with lead free solder.
When soldering or unsoldering, completely remove all of the solder from the pins and solder area,
and be sure to heat the soldering points with the lead free solder until it melts sufficiently.**

Recommendations

Recommended lead free solder composition is Sn96.5 Ag3.0 Cu0.5.

4 Specifications

ITEM		SPECIFICATION	1	2
Power Source		AC 120 V, 60 Hz	○	○
Power Consumption		Power ON: Approx. 220 W (When audio is at maximum) Power OFF: Approx. 0.5 W (When cooling fan is stopped with no CableCARD™)	○	○
DMD elements	Element Size	0.65″ (Aspect ratio: 16:9)	○	○
	Display method	Single Chip DMD element, DLP™ system	○	○
	No. of pixels	Resolution: 1 920 × 1 080	○	○
Display		56-inch, 16 : 9 aspect ratio	○	–
		61-inch, 16 : 9 aspect ratio	–	○
Speaker		30 W [7.5 W + 7.5 W + 15 W (subwoofer)] (10 % THD)	○	○
HID Lamp		120 W HID (High Intensity Discharge) Lamp	○	○
Channel Capability (Digital/Analog)		VHF/UHF 2-69 Cable 1-135	○	○
Input Terminals	PC INPUT	RGB analog 0.7 Vp-p (75 Ω) (D-SUB 15P) AUDIO 0.5 Vrms (M3 Stereo mini Pin Jack)	○	○
	AV INPUT 1-3	VIDEO 1.0 Vp-p (75 Ω) (RCA Pin Jack) S-VIDEO Y: 1 Vp-p (75 Ω), C: 0.286 Vp-p (75 Ω) (Mini DIN 4 pin) AUDIO L-R 0.5 Vrms (RCA Pin Jack × 2)	○	○
	COMPONENT VIDEO INPUT 1-2	Y 1.0 Vp-p (with sync) (75 Ω) (Pin Jack) PB / PR ± 0.35 Vp-p (75 Ω) (Pin Jack × 2) AUDIO L-R 0.5 Vrms (RCA Pin Jack × 2)	○	○
	HDMI 1-2	HDMI type A Connector AUDIO L-R 0.5 Vrms (RCA Pin Jack Type × 2)	○	○
SD Card slot		SD Card (8 MB/ 16 MB/ 32 MB/ 64 MB/ 128 MB/ 256 MB/ 512 MB/ 1 GB/ 2 GB (Maximum))	○	○
Output signals (AV OUT)		VIDEO 1.0 Vp-p (75 Ω) (RCA Pin Jack) AUDIO L-R 0.5 Vrms (RCA Pin Jack × 2)	○	○
IR Blaster		G-LINK Jack × 1	○	○
Tuner		ATSC digital tuner with digital cable module	○	○
Dimensions (W × H × D)		1 321 mm (W) × 925 mm (H) × 446 mm (D) 52″ (W) × 36-7/16″ (H) × 17-9/16″ (D)	○	–
		1 431 mm (W) × 999 mm (H) × 479 mm (D) 56-5/16″ (W) × 39-5/16″ (H) × 18-7/8″ (D)	–	○
Weight (Mass)		34 kg (75 lbs.) Net	○	–
		37 kg (81.6 lbs.) Net	–	○
Operating conditions		Temperature : 0 °C – 35 °C (32 °F - 95 °F) Humidity : 20 % – 80 % (non-condensing)	○	○
Solder		**This model uses lead free solder (PbF).**	○	○

1. PT-56DLX76/PT-56DLX76-K
2. PT-61DLX76/PT-61DLX26/PT-61DLX76-K

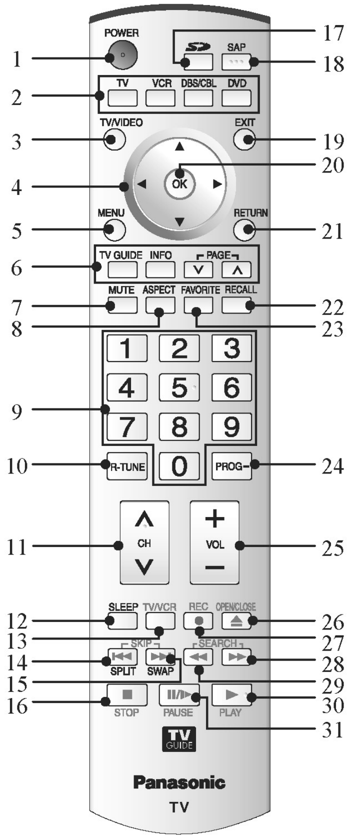
Design and Specifications are subject to change without notice.
Weight and Dimensions shown are approximate.

5 Location of Controls and Components

5.1. Operation Instructions

Location of Controls

Illuminated Remote Control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21
22
23
24
25
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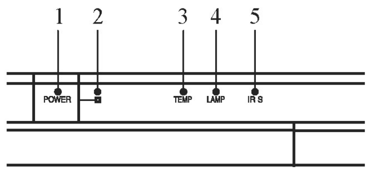
29
30
31
POWER
SAP
TV
VCR
DBS/CBL
DVD
TV/VIDEO
EXIT
OK
MENU
RETURN
TV GUIDE
INFO
PAGE
MUTE
ASPECT
FAVORITE
RECALL
1
2
3
4
5
6
7
8
9
R-TUNE
0
PROG
CH
VOL
SLEEP
TV/VCR
REC
OPEN/CLOSE
SKIP
SEARCH
SPLIT
SWAP
STOP
PAUSE
PLAY
TV GUIDE
Panasonic
TV

1	**POWER**	Press to turn ON and OFF.
2	**TV**	Sets the remote to control television or digital television.
	VCR, DBS/CBL, DVD	Sets the remote to control other devices.
3	**TV/VIDEO**	Changes Input source.
4	**SELECT ▲▼◀▶**	Controls navigation around on-screen menu.
5	**MENU**	Press to display Main Menu.
6	**TV GUIDE**	Press to enter the TV Guide.
	INFO	Press to display an information screen on TV Guide.
	PAGE ∨∧	Press to page scroll on TV Guide.
7	**MUTE**	Press to mute sound.
8	**ASPECT**	Changes display aspect ratio.
9	**NUMBER**	Press numeric keypad to select any channel or to make alpha-numeric entries in menus.
10	**R-TUNE**	Press to switch to previously viewed channel or input modes.
11	**CH ∧∨**	Press to change channels.
12	**SLEEP**	Sets unit to shut itself off after a preselected amount of time.
13	**TV/VCR**	Press to switch to TV or VCR.
14	**SKIP |◀◀**	While remote is in DVD mode, press to skip reverse.
	SPLIT	Press to display or delete Split screen.
15	**SKIP ▶▶|**	While remote is in DVD mode, press to skip forward.
	SWAP	Press to swap Main screen with Split screen.
16	**STOP**	While remote is in VCR or DVD mode, press to stop.
17	**SD**	Accesses the Photo Viewer feature.
18	**SAP**	In analog mode, press to access audio modes (Stereo, SAP or Mono). In digital mode, press to access next audio track.
19	**EXIT**	Press to exit menus.
20	**OK**	Press to select menu and sub-menu items.
21	**RETURN**	Press to return one step backward in menus.
22	**RECALL**	Press to display or delete Channel banner.
23	**FAVORITE**	Press to operate the Favorite channel list function.
24	**PROG**	Press after entering a digital channel to enter a sub-channel.
25	**VOL –+**	Press to adjust TV sound.
26	**OPEN/CLOSE**	While remote is in DVD mode, press to open or close DVD tray.
27	**REC**	While remote is in VCR or DVD mode, press to record.
28	**SEARCH ▶▶**	While remote is in VCR or DVD mode, press to fast forward.
29	**SEARCH ◀◀**	While remote is in VCR or DVD mode, press to rewind.
30	**PLAY**	While remote is in VCR or DVD mode, press to play.
31	**PAUSE**	While remote is in VCR or DVD mode, press to pause.

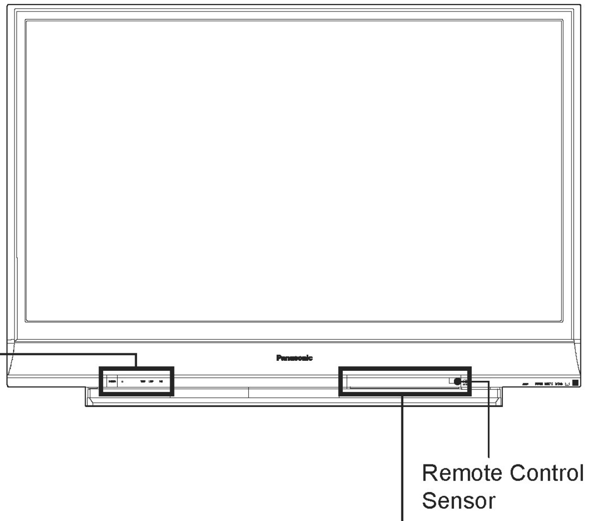
Location of Controls (continued)

Controls and Terminals on the Projection Display

Front View <Model PT-56DLX76 unit shown>

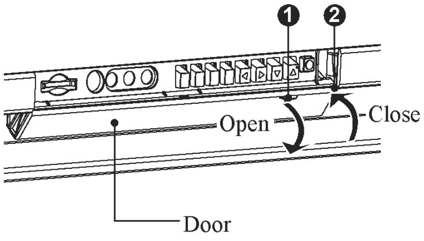

1
2
3
4
5
POWER
TEMP
LAMP
IRIS

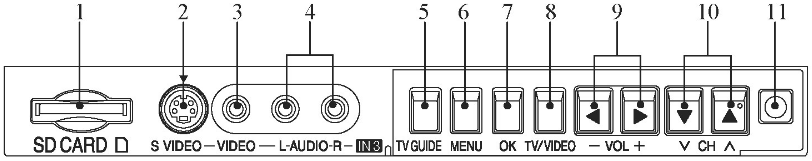
1	**POWER button**	Press to turn ON and OFF. (p. 75, 78)
2	**POWER indicator**	Lights up green when power is ON. (p. 26, 75)
3	**TEMP indicator**	Flashes when unit internal temperature is abnormal. (p. 75)
4	**LAMP indicator**	Lights up or flashes when the lamp unit is malfunctioning. (p. 75)
5	**IRIS indicator**	Lights up when “Dynamic iris” is set to “On”. (p. 46)


Remote Control Sensor

Open Door:
Press position ❶, and slide Door open as shown by arrow.

Close Door:
Press position ❷, and slide Door closed as shown by arrow.


❶
❷
Open
Close
Door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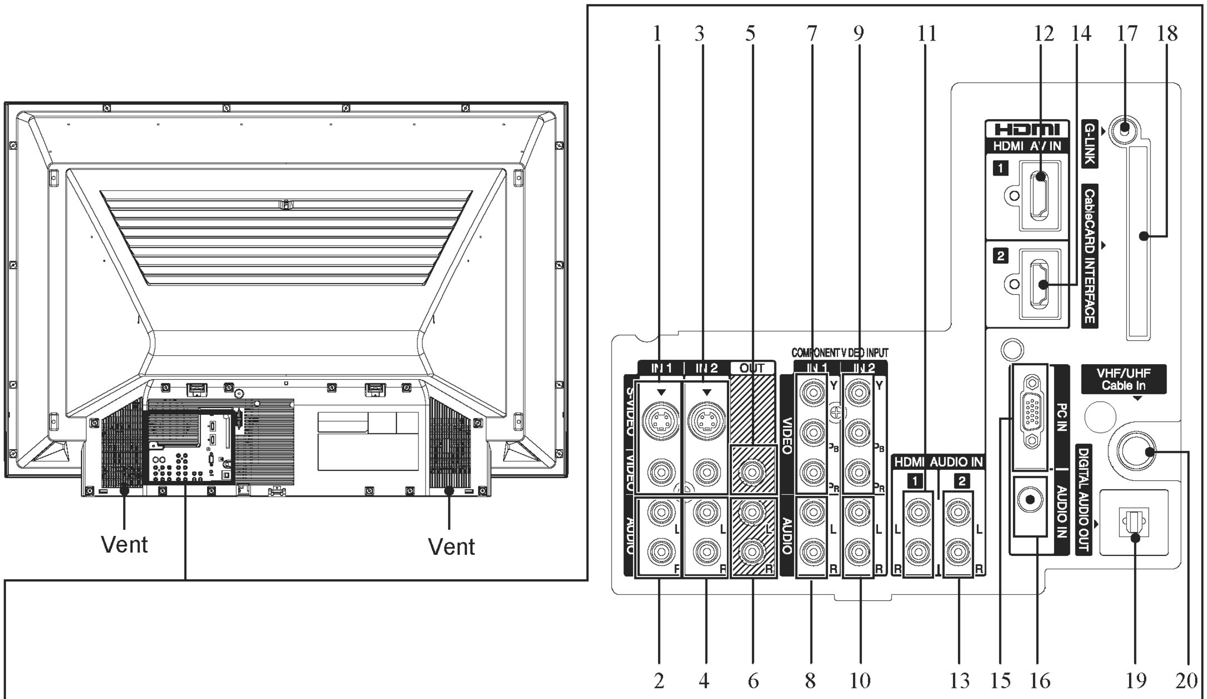
10
11
SD CARD
S VIDEO — VIDEO — L-AUDIO-R — IN3
TV GUIDE
MENU
OK
TV/VIDEO
— VOL +
∨ CH ∧

1	**SD CARD Slot**	Insert SD Card.
2	**S-Video Input Connector 3**	Connect from other component. (Video 3)
3	**Video Input Connector 3**	Connect from other component. (Video 3)
4	**Audio Input Connector 3**	Connect from other component. (Video 3)
5	**TV GUIDE***	Press to display the TV GUIDE.
6	**MENU***	Press to display Main Menu.

7	**OK***	Press to select menu and sub-menu items.
8	**TV/VIDEO***	Changes Input source.
9	**VOL -+ / ◄►***	Press to adjust TV sound and to navigate menus.
10	**CH ∨∧ / ▼▲***	Press to change channels and to navigate menus.
11	**Remote Control Sensor**	Receives infrared signal from Remote Control.

* Buttons listed above operate the same as Remote Control buttons of the same name.

Rear View <Model PT-56DLX76 unit shown>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3
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17
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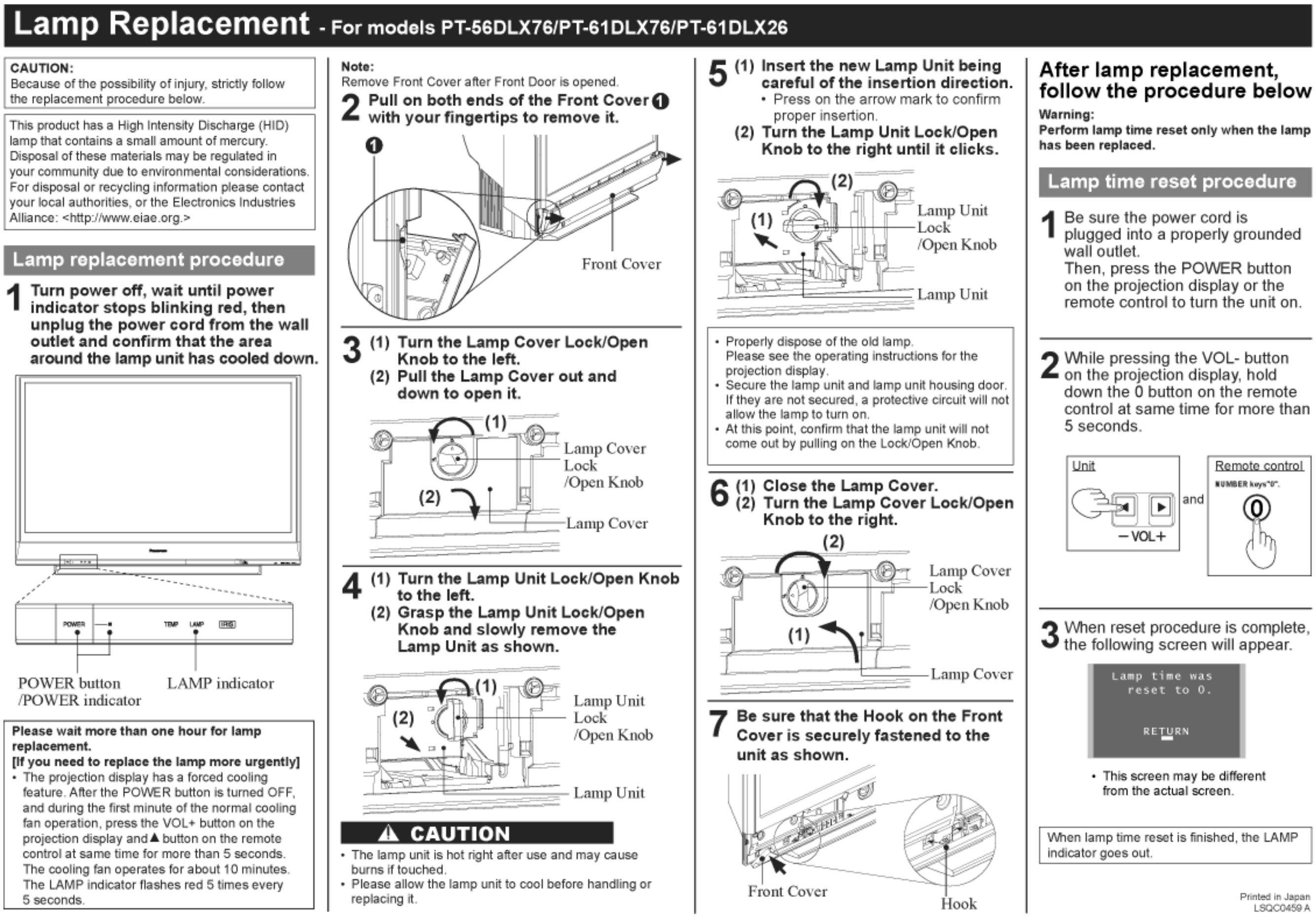
HDMI
HDMI AV IN
G-LINK
CableCARD INTERFACE
COMPONENT VIDEO INPUT
IN 1
IN 2
OUT
S-VIDEO
VIDEO
AUDIO
Y
PB
PR
L
R
HDMI AUDIO IN
PC IN
AUDIO IN
DIGITAL AUDIO OUT
VHF/UHF Cable In
Vent
Vent
2
4
6
8
10
13
15
16
19
20

1	**S-Video/Video Input Connector 1**	Connect from other component. (Video 1)
2	**Audio Input Connector 1**	Connect from other component. (Video 1)
3	**S-Video/Video Input Connector 2**	Connect from other component. (Video 2)
4	**Audio Input Connector 2**	Connect from other component. (Video 2)
5	**Video Out Connector**	Output video signal.
6	**Audio Out Connector**	Output audio signal. (Analog)
7	**Component Video Input Connector 1**	Connect from other component. (Component 1)
8	**Audio Input Connector 1**	Connect from other component. (Component 1)
9	**Component Video Input Connector 2**	Connect from other component. (Component 2)
10	**Audio Input Connector 2**	Connect from other component. (Component 2)

11	**HDMI Input Terminal 1**	**Audio 1**	Connect from other component. (HDMI 1)
12		**Audio/ Video 1**	Connect from other component. (HDMI 1)
13	**HDMI Input Terminal 2**	**Audio 2**	Connect from other component. (HDMI 2)
14		**Audio/ Video 2**	Connect from other component. (HDMI 2)
15	**PC (RGB) Input Connector**		Connect from PC. (PC)
16	**Audio Input Connector**		Connect from PC. (PC)
17	**G-LINK Connector**		Connect the IR Blaster.
18	**CableCARD™ INTERFACE**		Insert CableCARD™.
19	**DIGITAL AUDIO OUT**		Output audio signal. (Digital)
20	**VHF/UHF Cable In**		Input terminal for an antenna or cable box signal.

Notes:
- Make sure the vents are not blocked. (This could cause damage.)
- Indication on the back panel may change without notice.

5.2. Replacement of Lamp



Lamp Replacement - For models PT-56DLX76/PT-61DLX76/PT-61DLX26

CAUTION:
Because of the possibility of injury, strictly follow the replacement procedure below.

This product has a High Intensity Discharge (HID) lamp that contains a small amount of mercury. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

Lamp replacement procedure

1 **Turn power off, wait until power indicator stops blinking red, then unplug the power cord from the wall outlet and confirm that the area around the lamp unit has cooled down.**

Please wait more than one hour for lamp replacement.
[If you need to replace the lamp more urgently]

- The projection display has a forced cooling feature. After the POWER button is turned OFF, and during the first minute of the normal cooling fan operation, press the VOL+ button on the projection display and ▲ button on the remote control at same time for more than 5 seconds. The cooling fan operates for about 10 minutes. The LAMP indicator flashes red 5 times every 5 seconds.

Note:
Remove Front Cover after Front Door is opened.

2 **Pull on both ends of the Front Cover ❶ with your fingertips to remove it.**

3 **(1) Turn the Lamp Cover Lock/Open Knob to the left.**
(2) Pull the Lamp Cover out and down to open it.

4 **(1) Turn the Lamp Unit Lock/Open Knob to the left.**
(2) Grasp the Lamp Unit Lock/Open Knob and slowly remove the Lamp Unit as shown.

⚠ CAUTION

- The lamp unit is hot right after use and may cause burns if touched.
- Please allow the lamp unit to cool before handling or replacing it.

5 **(1) Insert the new Lamp Unit being careful of the insertion direction.**
- Press on the arrow mark to confirm proper insertion.

(2) Turn the Lamp Unit Lock/Open Knob to the right until it clicks.

- Properly dispose of the old lamp. Please see the operating instructions for the projection display.
- Secure the lamp unit and lamp unit housing door. If they are not secured, a protective circuit will not allow the lamp to turn on.
- At this point, confirm that the lamp unit will not come out by pulling on the Lock/Open Knob.

6 **(1) Close the Lamp Cover.**
(2) Turn the Lamp Cover Lock/Open Knob to the right.

7 **Be sure that the Hook on the Front Cover is securely fastened to the unit as shown.**

After lamp replacement, follow the procedure below

Warning:
Perform lamp time reset only when the lamp has been replaced.

Lamp time reset procedure

1 Be sure the power cord is plugged into a properly grounded wall outlet.
Then, press the POWER button on the projection display or the remote control to turn the unit on.

2 While pressing the VOL- button on the projection display, hold down the 0 button on the remote control at same time for more than 5 seconds.

3 When reset procedure is complete, the following screen will appear.

```
Lamp time was
  reset to 0.

RETURN
```

- This screen may be different from the actual screen.

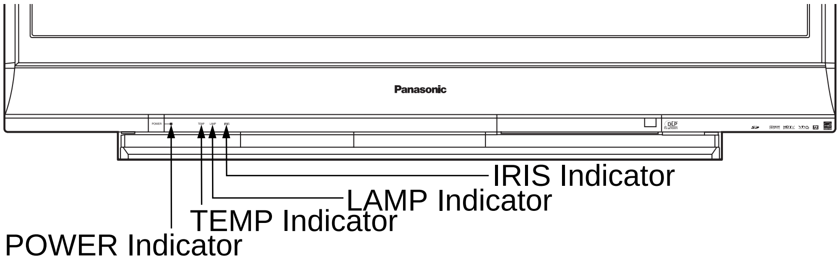
When lamp time reset is finished, the LAMP indicator goes out.

Printed in Japan
LSQC0459 A

6 Service Mode

INDICATIONS FOR ERROR CONDITIONS

Each Indicator facilitates finding the cause of an error.
When an error is detected, the Lamp goes off and the indicators on the front flash.



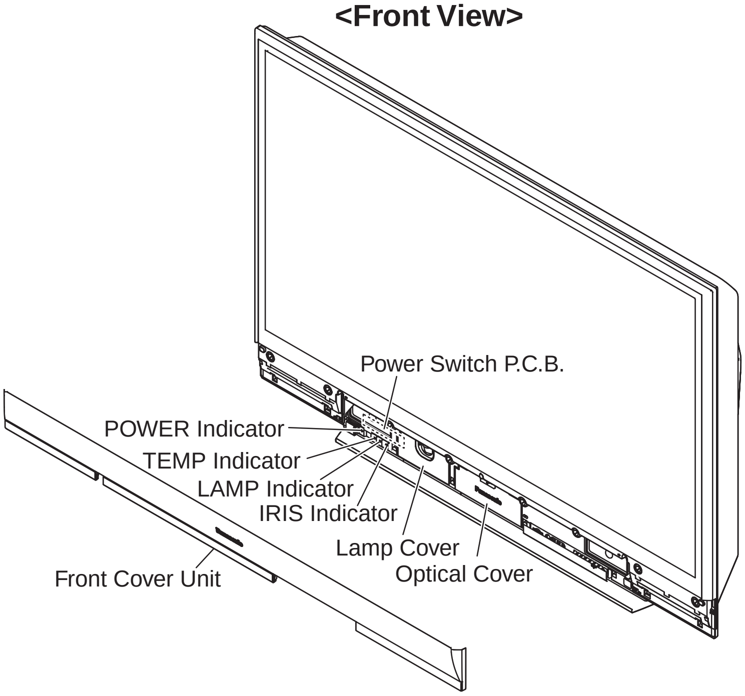
				(Note 4)	(Note 1, 2)	(Note 3)	
Error No.	Error Information	POWER Indicator flashes orange	TEMP Indicator flashes red	LAMP Indicator flashes red	SOS	LAMP OFF	RESET
1)	SOS2 (Over voltage/current)	1	-	-	H10SOS2	○	Power ON/OFF
2)	Fan 1, Fan 2 or Fan 3 stops	2	-	-	H20FANST	○	AC ON/OFF
3)	Abnormal voltage (DT+5V line)	3	-	-	H30DT9V	○	Power ON/OFF
4)	IC5001 (GC4PRO) communication error	5	-	-	H50GC4PR	○	AC ON/OFF
5)	Abnormal Color Wheel rotation	6	-	-	-	○	
6)	Lamp Cover open	7	-	-	(H70LAMCV)	○	Power ON/OFF
7)	IC2008 (DMD Control) ASIC READY is incomplete	8	-	-	(H80ASCRY)	○	
8)	Abnormal Temperature	-	1	-	H60CWSTP	○	
9)	Abnormal Lamp	-	-	1	-	○	
10)	Iris Mechanism hardware error	-	-	2	-	-	
11)	Iris calibration error	-	-	3	-	-	
12)	Iris communication error	-	-	4	-	-	

Note:

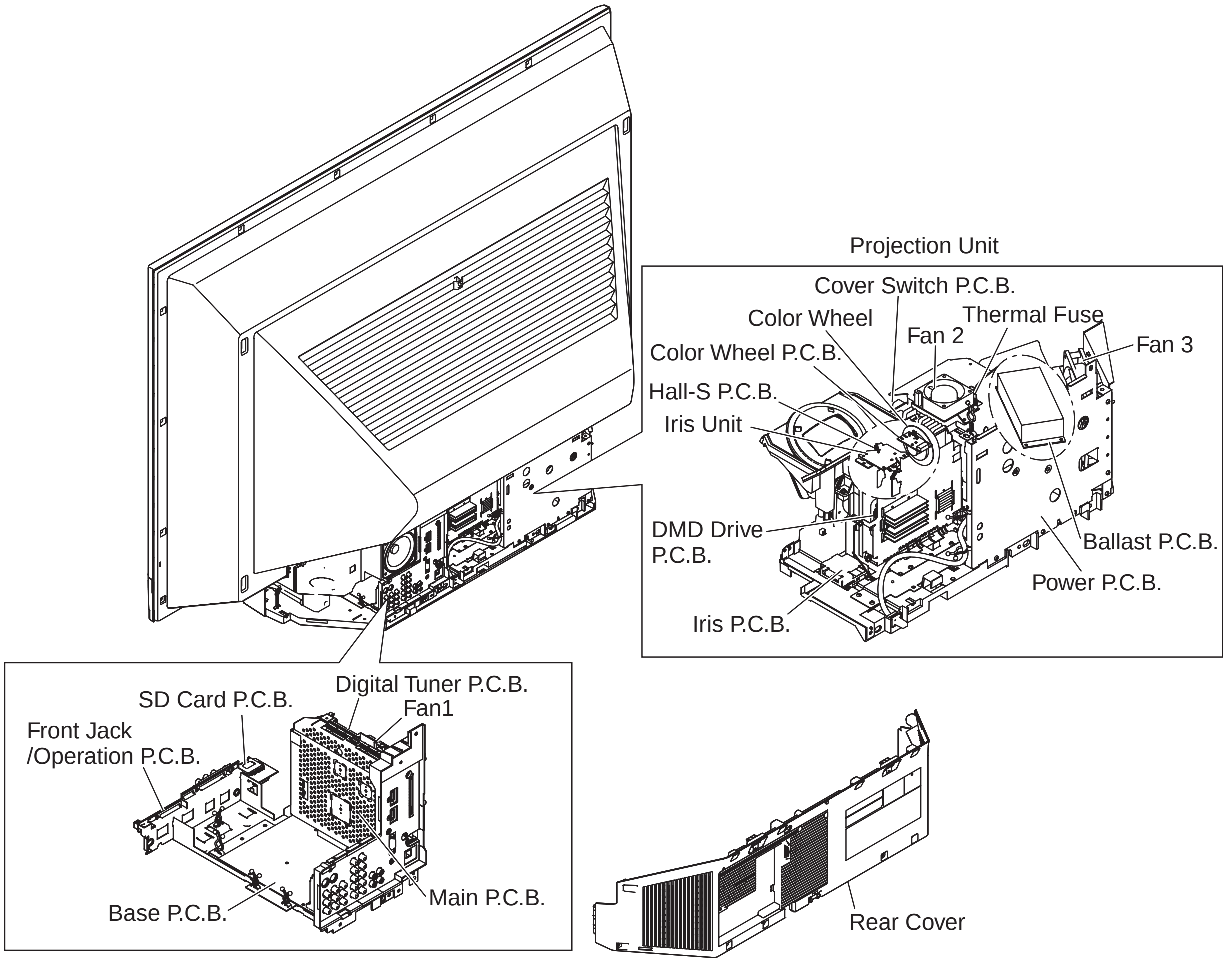
1. The detected SOS Error 1) 2) 3) 4) 6) 7) 8) data will be stored in the EEPROM.
2. SOS (Error) information is displayed in Service Mode (4/4).
3. LAMP OFF: The Indicator will flash immediately after the Lamp goes off.
4. **In case of Error 10) or 11), the unit will not shut off and Dynamic Iris setting in Adv. adjust of Picture Menu will be changed to "OFF" automatically. When the unit is turned off and turned back on,**
   Dynamic Iris "OFF" setting remains. Lamp Indicator will not flash as long as Dynamic Iris setting in Adv. adjust of Picture Menu is set to "ON" manually.
   In case of Error 12), the unit will not shut off and Dynamic Iris setting will not be changed to "OFF" automatically.

MAIN PARTS LOCATION

<Front View>


Power Switch P.C.B.
POWER Indicator
TEMP Indicator
LAMP Indicator
IRIS Indicator
Lamp Cover
Optical Cover
Front Cover Unit

<Rear View>


Projection Unit
Cover Switch P.C.B.
Color Wheel
Thermal Fuse
Fan 2
Fan 3
Color Wheel P.C.B.
Hall-S P.C.B.
Iris Unit
DMD Drive P.C.B.
Ballast P.C.B.
Power P.C.B.
Iris P.C.B.
Digital Tuner P.C.B.
SD Card P.C.B.
Fan1
Front Jack /Operation P.C.B.
Main P.C.B.
Base P.C.B.
Rear Cover
TV Unit & Digital Tuner P.C.B.

WHEN AND HOW TO COPY EEPROM DATA FROM DMD DRIVE P.C.B. (L BORAD) TO MAIN P.C.B. (DG BOARD)

The table below shows when it is necessary to copy the "Color Wheel Index Delay" and "White Balance" adjustment data stored in the EEPROM IC (IC2006) on the DMD Drive P.C.B. to the EEPROM IC on the Main P.C.B. After replacing the corresponding parts, copying must be done using "EEP COPY L->DG" in Factory Adjust Mode at the user's location.

When replacing the following parts, copying is necessary.

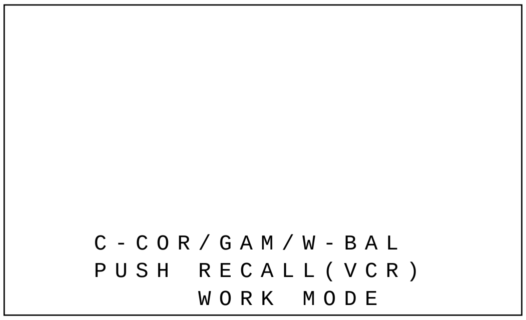
Replacement Parts or Substitution from another set	TV Unit (Ref No. 25)	○
	Main P.C.B. (Ref No. E10)	○
	IC6000 (EEPROM)	○
	Projection Unit (Ref No. 21)	○

Note:
1. When re-installing the original parts, copying is not necessary.
2. The "Color Wheel Index Delay" and "White Balance" data stored in EEPROM IC on the DMD Drive P.C.B. is adjusted at the factory.

(For reference)
When replacing the following parts, copying is not necessary.

Replacement Parts or Substitution from another set	Base Body Unit (Ref No. 40)	×
	Color Wheel (Ref No. 235)	×
	DMD Drive P.C.B. (Ref No. E110)	×
	IC2006 (EEPROM)	×
	DMD IC (Ref No. IC2023)	×
	Digital Tuner P.C.B. (Ref No. E100)	×
After "Color Wheel Index Delay" adjustment or "White Balance" adjustment:		×

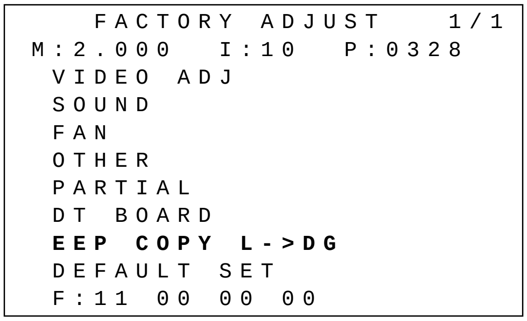
How to copy data:
1. Turn the power on.
2. To enter Work Mode, press and hold the VOLUME DOWN button on the unit and the RECALL key on the remote for more than 5 seconds in power on condition.



```
C-COR/GAM/W-BAL
PUSH RECALL(VCR)
     WORK MODE
```

<Work Mode>

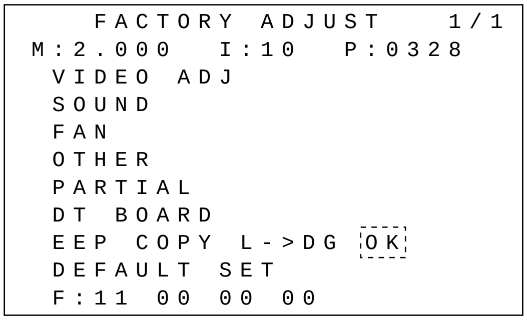
3. To enter Factory Adjust Mode, press the VCR key to go to VCR mode, then the RECALL key on the remote for more than 1 second.
4. Press the TV key to return to TV mode, then press the CH UP/DOWN key on the remote to select "EEP COPY L->DG" on menu.



```
   FACTORY ADJUST    1/1
M:2.000  I:10  P:0328
 VIDEO ADJ
 SOUND
 FAN
 OTHER
 PARTIAL
 DT BOARD
 EEP COPY L->DG
 DEFAULT SET
 F:11 00 00 00
```

<Factory Adjust mode>

5. Press the OK key for more than 5 seconds. "OK" will appear for approx. 5 seconds. The adjustment data of the Projection Unit will be copied to the EEPROM IC on the Main P.C.B.



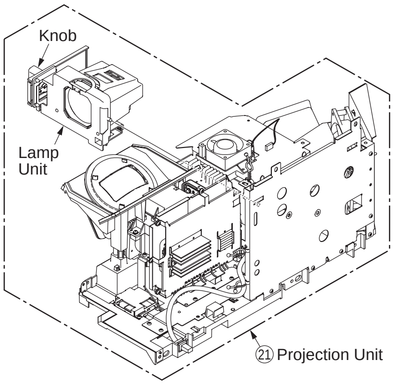
```
   FACTORY ADJUST    1/1
M:2.000  I:10  P:0328
 VIDEO ADJ
 SOUND
 FAN
 OTHER
 PARTIAL
 DT BOARD
 EEP COPY L->DG OK
 DEFAULT SET
 F:11 00 00 00
```

<Factory Adjust mode>

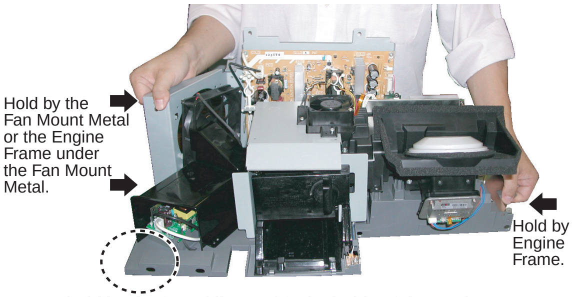
6. Turn the power off to complete copying.
   Note:
   Turning the power off finalizes the copying process.
7. Turn the power on again, check the internal pattern for "Color Wheel Index Delay" in Factory Adjust Mode.
   If required, perform the "Color Wheel Index Delay" adjustment.
8. Check the white balance on the screen. If NG, perform the "White Balance" adjustment.

BEFORE REMOVING THE PROJECTION UNIT FROM THE UNIT AT THE USER'S LOCATION

When removing the Projection Unit, remove and retain the Lamp from the Projection Unit. Then, reinstall this Lamp Unit into the new Projection Unit.
Also, when handling or picking up the Projection Unit, hold it as shown below. Otherwise, the Engine Frame may be severely bent or the Power P.C.B. may be damaged.



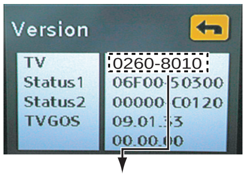
Hold the Projection Unit only by designated points.


Hold by the Fan Mount Metal or the Engine Frame under the Fan Mount Metal.
Hold by Engine Frame.

Never hold by the front (diagonal facing) side of the Engine Frame.

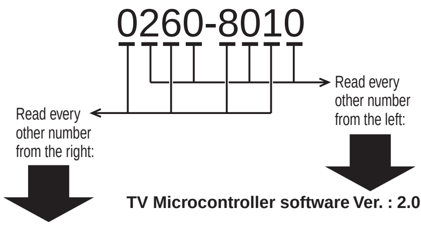
TO READ THE DIGITAL TUNER (PEAKS) SOFTWARE VERSION AND TV MICROCONTROLLER SOFTWARE VERSION

1. Press MENU key with the power on.
2. Press CH UP/DOWN key and select "Setup."
   Then press OK key.
3. Press CH UP/DOWN key and select "About."
   Then press OK key.
4. Select "Version" and press OK key.
   Version menu will appear as shown below.
   Starting with the second digit from the right or from the left.



Version

TV 0260-8010
Status1 06F00 50300
Status2 00000 C0120
TVGOS 09.01.33
00.00.00


0260-8010
Read every other number from the left:
Read every other number from the right:

TV Microcontroller software Ver. : 2.000

Digital Tuner (Peaks) software Ver. : 1.860

RESET USER'S MEMORY FUNCTIONS

Be sure to reset the user's memory:
- After replacing the Digital Tuner P.C.B.
- If the secret code for V-chip has been forgotten.
- When moving the unit to a new location.
- When resetting SOS (Error) number records.

1. Turn on the power.
2. Press and hold the VOLUME DOWN button on the unit and the OK key on the remote for more than 3 seconds. When reset is finished, power shuts off automatically (the user's memory is reset).

DO NOT UNPLUG AC CORD DURING COOLING OPERATION

The lamp cooling fan will continue to operate for approximately 1 minute after the power is turned off.
At the same time, the POWER LED will flash red.
Do not disconnect the AC Cord from the power outlet and do not open any circuit breakers while the cooling fan is still operating.

HOT CIRCUIT

Primary circuit exists on the Ballast P.C.B. and the Power P.C.B.
This circuit is identified as "**HOT**" on the P.C.B. and in the Service Manual. Use extreme care to prevent accidental shock when servicing.

MODEL NO. IDENTIFICATION MARK

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PT-56DLX76	A
PT-61DLX76	B
PT-61DLX26	C
NOT USED	PT

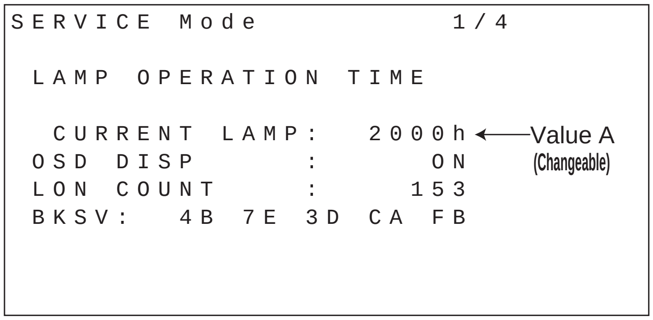
Note:
Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for mark "PT."

BEFORE REMOVING THE MAIN P.C.B. OR THE TV UNIT FROM THE UNIT AT THE USE'S LOCATION

Note:
The TV Unit includes the Main P.C.B.

CAUTION:

1. **<u>Be sure to make a note of the CURRENT LAMP value (value A) in Service Mode (1/4):</u>**



```
SERVICE Mode            1/4

 LAMP OPERATION TIME

  CURRENT LAMP:   2000h
 OSD DISP      :     ON
 LON COUNT     :    153
 BKSV:   4B 7E 3D CA FB
```

<Service Mode (1/4)>
Fig. 2

LAMP OPERATION TIME is stored in EEPROM on the Main P.C.B. Therefore, before removing the Main P.C.B. or the TV Unit at the user's location, make a note of the CURRENT LAMP value (value A) in Service Mode (1/4). Then, after installing the new Main P.C.B. or the TV Unit at the user's location, set the CURRENT LAMP value to the original value (value A) in Service Mode.
Otherwise, OSD and LED Lamp replacement indications will be displayed at the wrong time.

Note:
In case it is impossible to make a note of the CURRENT LAMP value because of a defective Main P.C.B., ask the customer their daily average use and the approximate age of the current Lamp. Then, calculate the CURRENT LAMP value as follows and make a note.

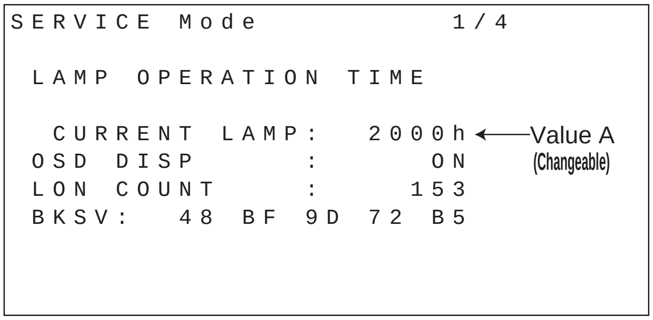
Daily average use (hours) X Approx. age (days) = **CURRENT LAMP** (hours)

Note:
The TOTAL value can be set to the original value in Service Mode (2/4) by similar method:
Before removing the Main P.C.B. at the user's location, make a note of the TOTAL value in Service Mode (2/4).
Then, after installing the new Main P.C.B. at the user's location, set the TOTAL value to the original value in Service Mode.

WHEN REINSTALLING THE MAIN P.C.B. OR THE TV UNIT FROM THE UNIT AT THE USE'S LOCATION

CAUTION:

1. Set CURRENT LAMP value to original value as follows.
   1) Select CURRENT LAMP in Service Mode (1/4).
   2) Press the VOLUME UP/DOWN key on the remote to change to the original value (value A) that was noted before removing the Main P.C.B. or the TV Unit at the user's location.

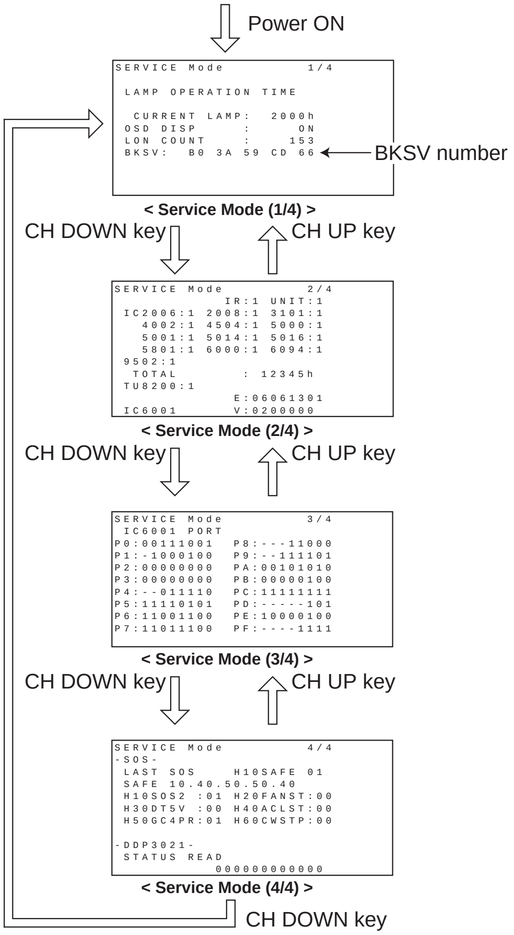


```
SERVICE Mode            1/4

 LAMP OPERATION TIME

  CURRENT LAMP:   2000h
 OSD DISP      :     ON
 LON COUNT     :    153
 BKSV:   48 BF 9D 72 B5
```

<Service Mode (1/4)>
Fig. 3

Service Mode Map

Enter:
VOLUME DOWN button + TV/VIDEO key
(on the front) (on the remote)
(for more than 5 seconds in power off condition)



```
SERVICE Mode            1/4

 LAMP OPERATION TIME

  CURRENT LAMP:   2000h
 OSD DISP      :     ON
 LON COUNT     :    153
 BKSV:   B0 3A 59 CD 66
```

< Service Mode (1/4) >

```
SERVICE Mode            2/4
            IR:1 UNIT:1
 IC2006:1 2008:1 3101:1
   4002:1 4504:1 5000:1
   5001:1 5014:1 5016:1
   5801:1 6000:1 6094:1
 9502:1
  TOTAL         : 12345h
 TU8200:1
             E:06061301
 IC6001      V:0200000
```

< Service Mode (2/4) >

```
SERVICE Mode            3/4
 IC6001 PORT
P0:00111001  P8:---11000
P1:-1000100  P9:--111101
P2:00000000  PA:00101010
P3:00000000  PB:00000100
P4:--011110  PC:11111111
P5:11110101  PD:-----101
P6:11001100  PE:10000100
P7:11011100  PF:----1111
```

< Service Mode (3/4) >

```
SERVICE Mode            4/4
-SOS-
 LAST SOS    H10SAFE 01
 SAFE 10.40.50.50.40
 H10SOS2 :01 H20FANST:00
 H30DT5V :00 H40ACLST:00
 H50GC4PR:01 H60CWSTP:00

-DDP3021-
 STATUS READ
           000000000000
```

< Service Mode (4/4) >

Exit:
Power OFF.

WIRE AND LEAD POSITION DIAGRAM OF THE UNIT

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

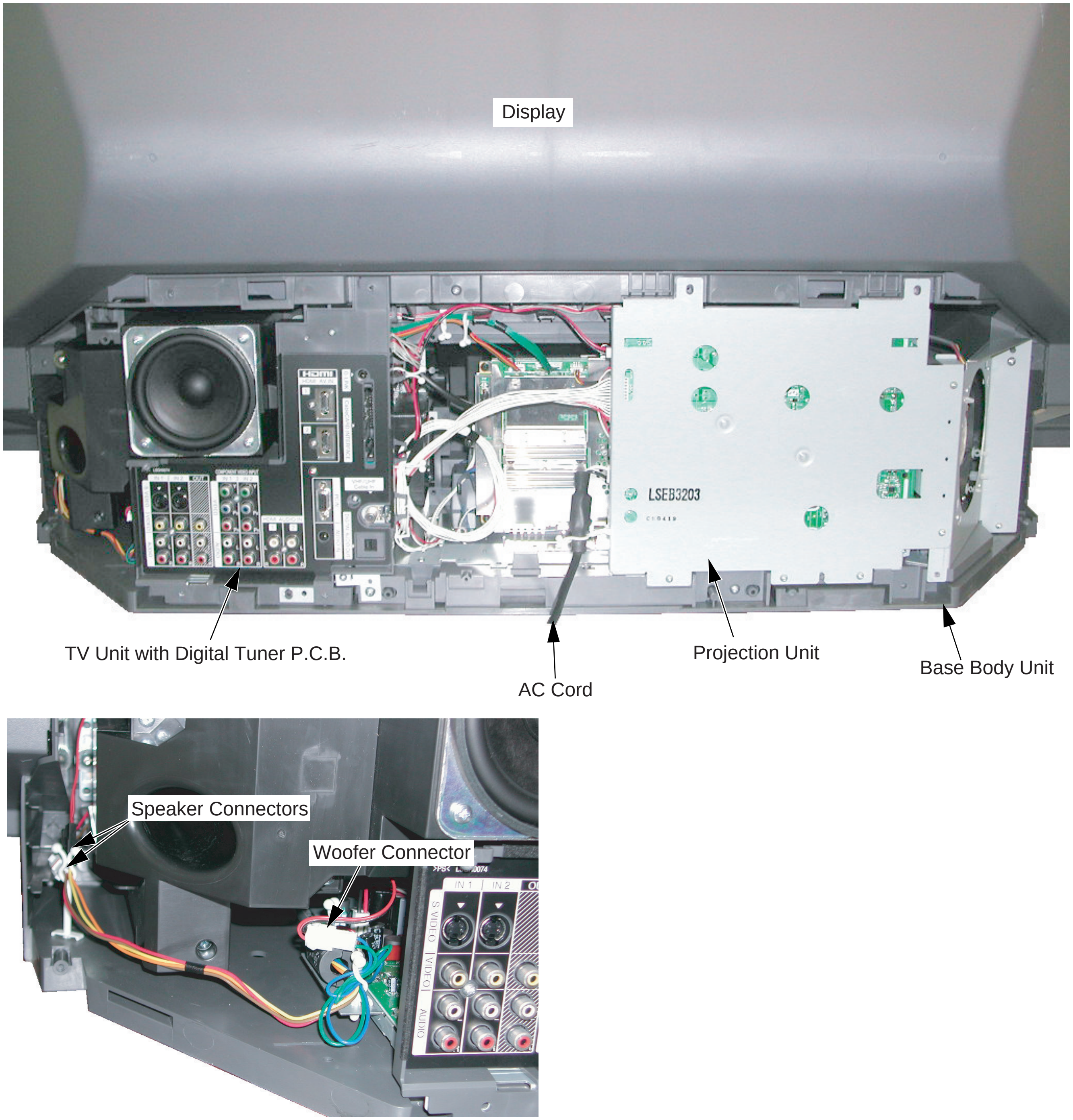

Display
TV Unit with Digital Tuner P.C.B.
AC Cord
Projection Unit
Base Body Unit
LSEB3203
Speaker Connectors
Woofer Connector

Fig. 9-1

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

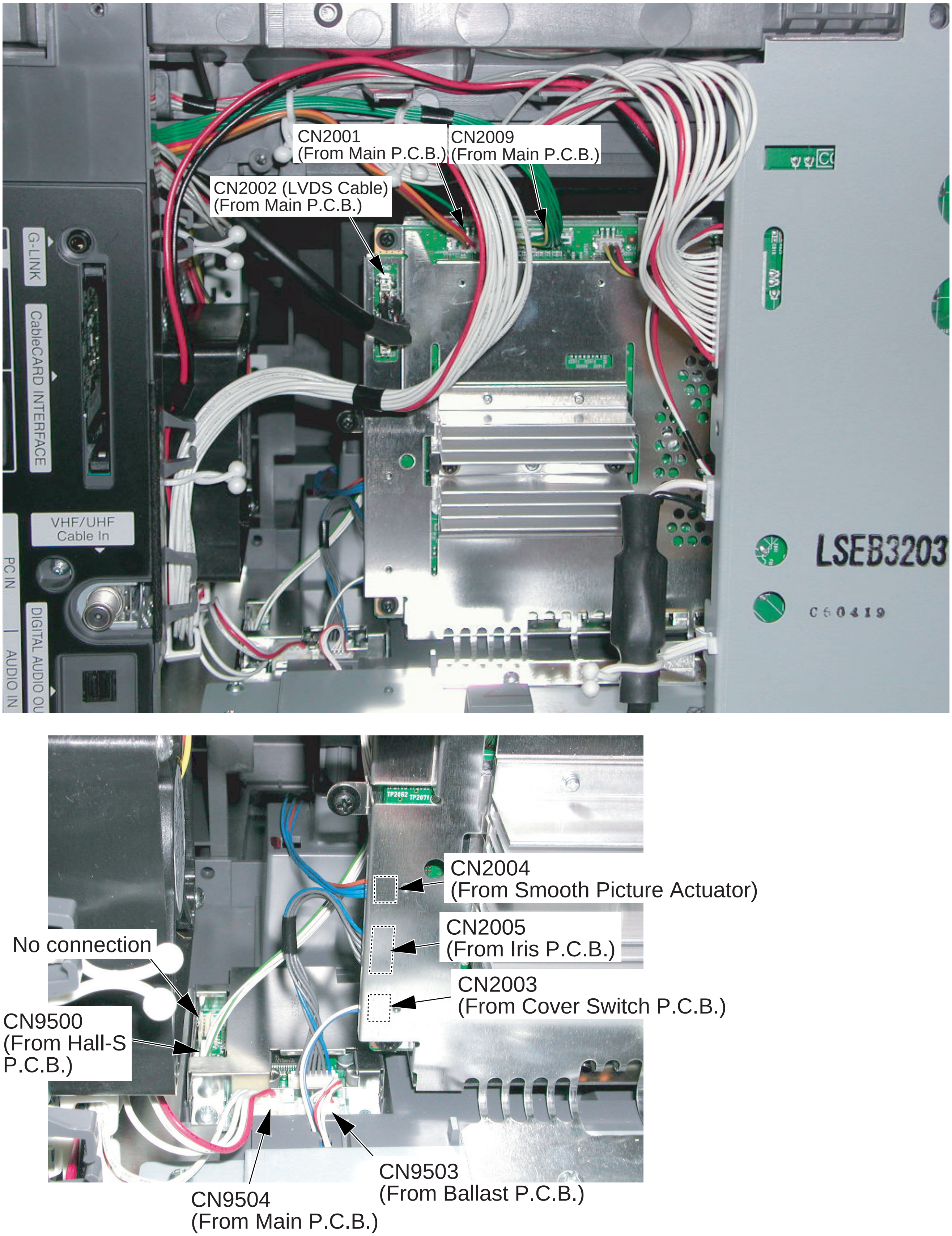
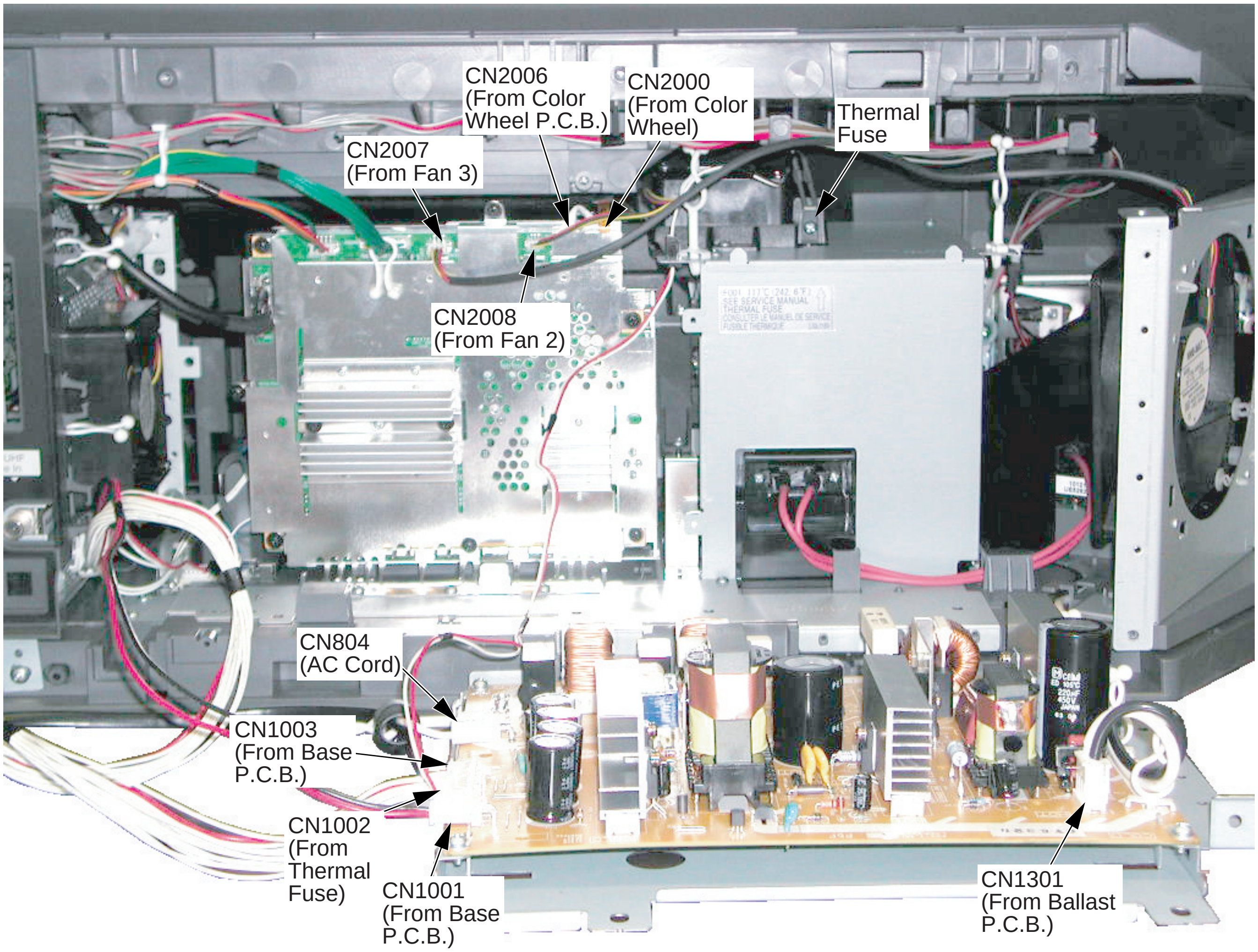

CN2001
(From Main P.C.B.)
CN2009
(From Main P.C.B.)
CN2002 (LVDS Cable)
(From Main P.C.B.)
G-LINK
CableCARD INTERFACE
VHF/UHF
Cable In
PC IN
AUDIO IN
DIGITAL AUDIO OU
LSEB3203
C60419
CN2004
(From Smooth Picture Actuator)
CN2005
(From Iris P.C.B.)
CN2003
(From Cover Switch P.C.B.)
No connection
CN9500
(From Hall-S
P.C.B.)
CN9503
(From Ballast P.C.B.)
CN9504
(From Main P.C.B.)

Fig. 9-2

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

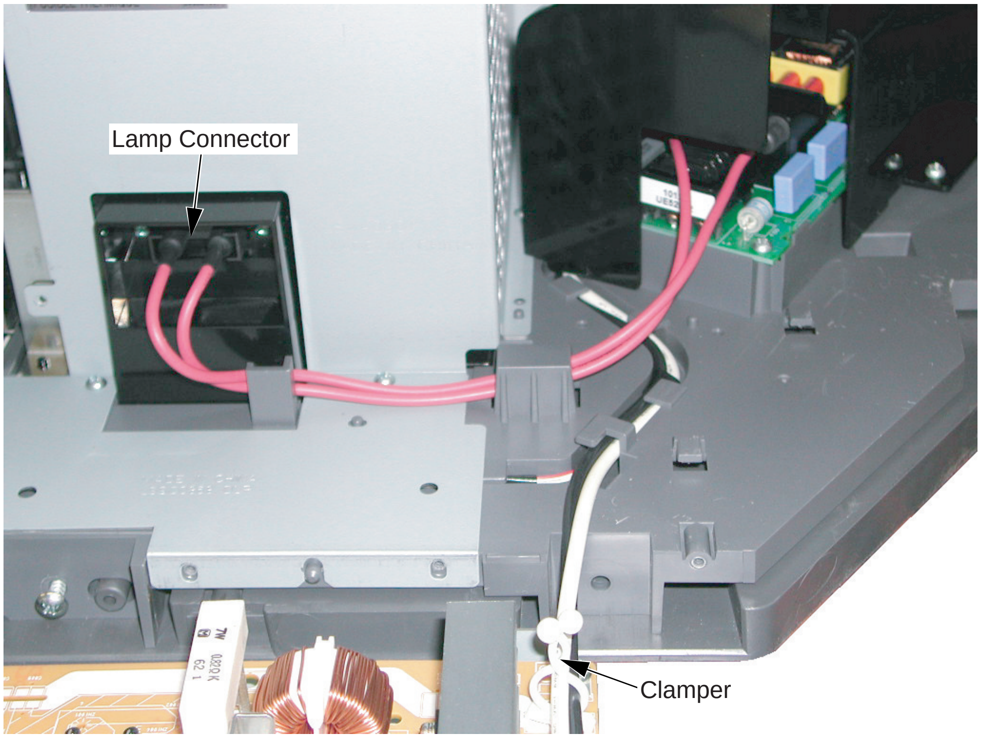

CN2006 (From Color Wheel P.C.B.)
CN2000 (From Color Wheel)
Thermal Fuse
CN2007 (From Fan 3)
CN2008 (From Fan 2)
CN804 (AC Cord)
CN1003 (From Base P.C.B.)
CN1002 (From Thermal Fuse)
CN1001 (From Base P.C.B.)
CN1301 (From Ballast P.C.B.)

<With Power P.C.B/Power PCB Mount Metal opened>

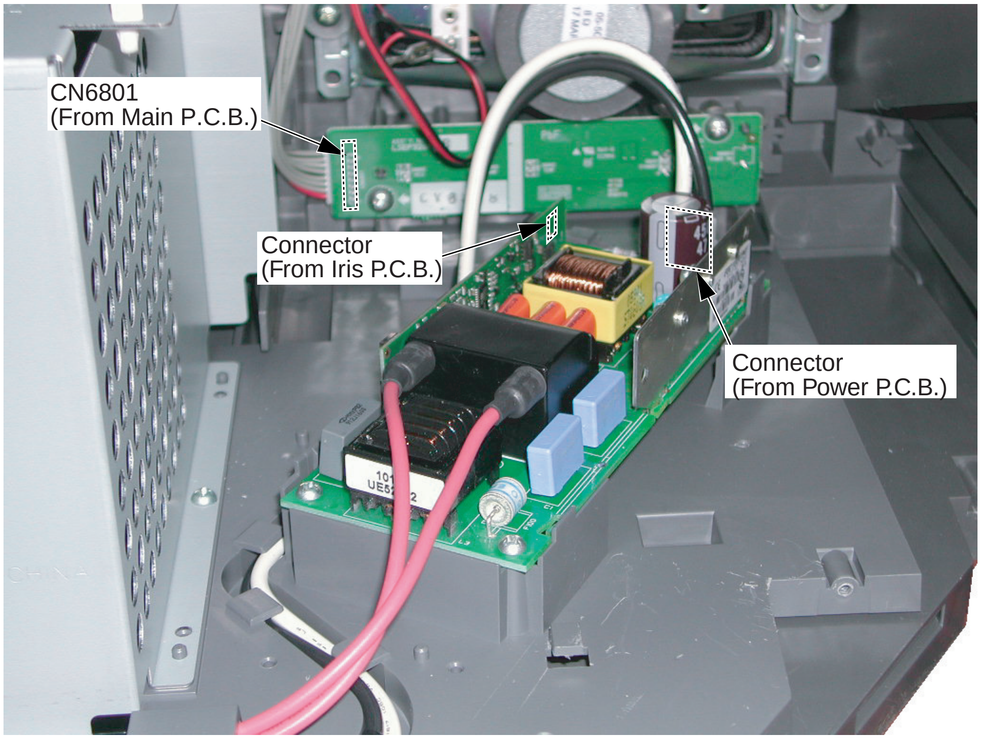
Fig. 9-3

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.


Lamp Connector
Clamper

<With Power P.C.B/Power PCB Mount Metal opened and Fan 3 removed>


CN6801
(From Main P.C.B.)
Connector
(From Iris P.C.B.)
Connector
(From Power P.C.B.)

<With Ballast Duct removed>

Fig. 9-4

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.
Note: Use extreme care especially for the following.

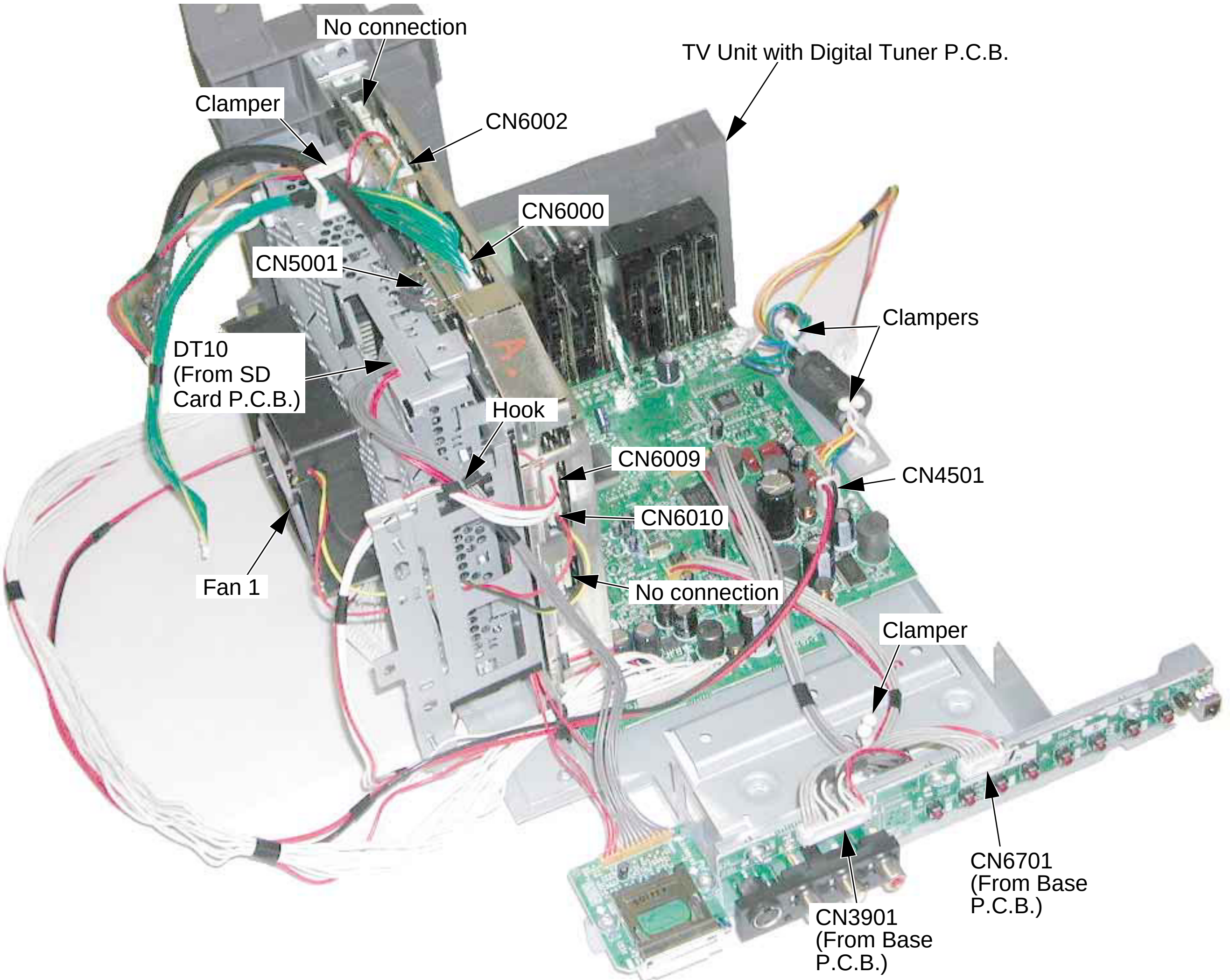

No connection
TV Unit with Digital Tuner P.C.B.
Clamper
CN6002
CN6000
CN5001
Clampers
DT10
(From SD
Card P.C.B.)
Hook
CN6009
CN4501
CN6010
Fan 1
No connection
Clamper
CN6701
(From Base
P.C.B.)
CN3901
(From Base
P.C.B.)

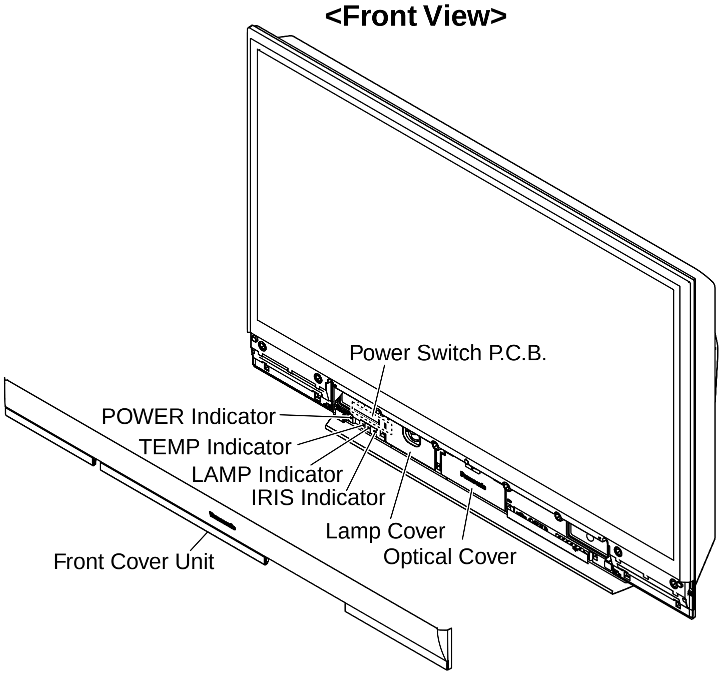
Fig. 9-5

7 Troubleshooting Guide

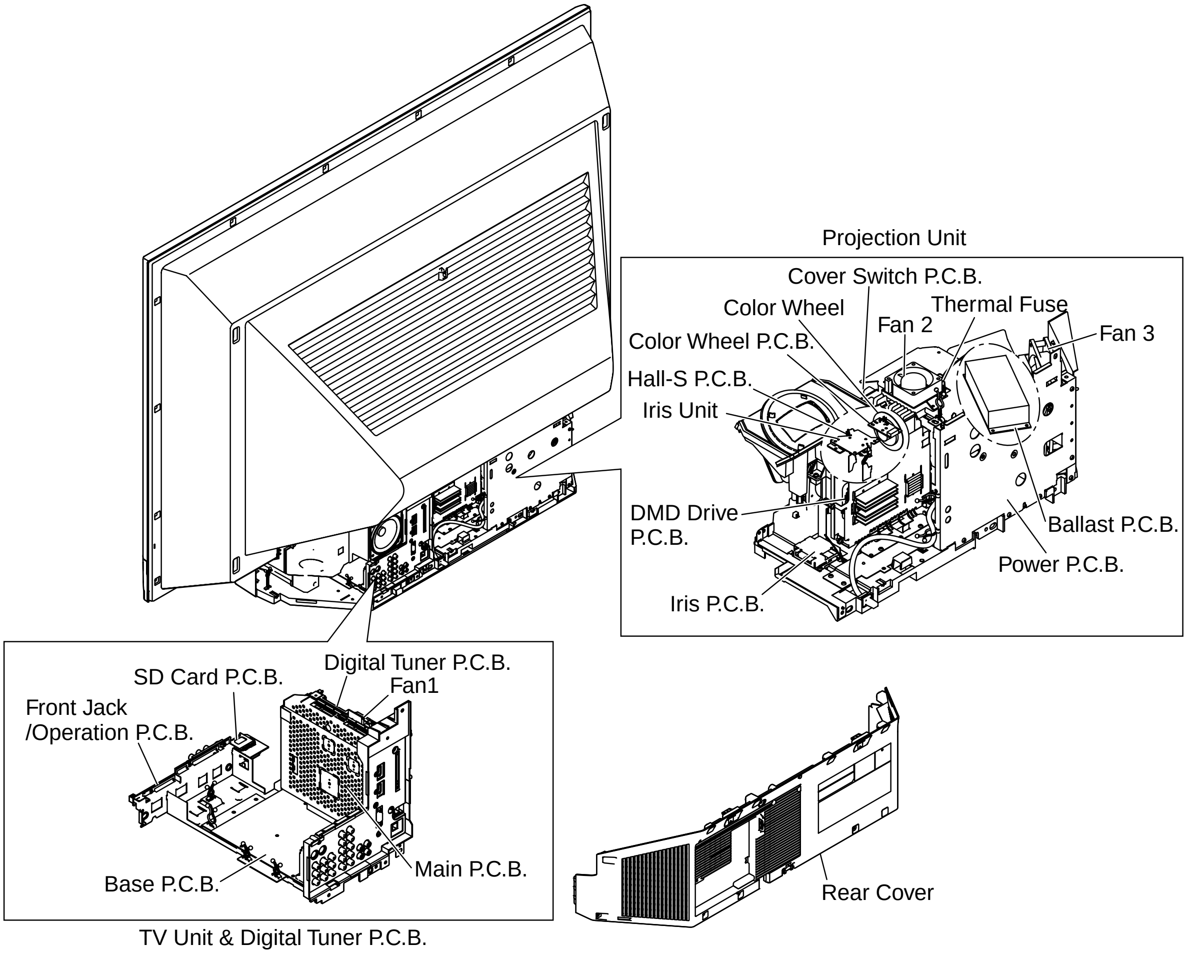
7.1. Troubleshooting Hints for Block Level Repair

MAIN PARTS LOCATION

<Front View>

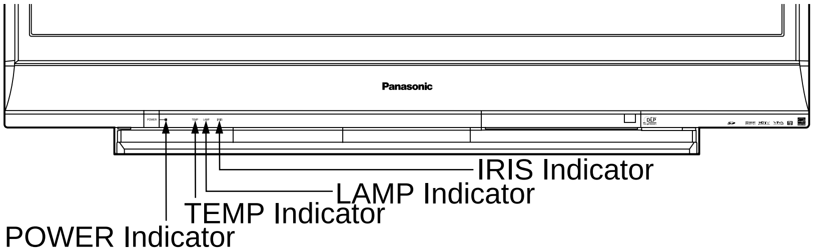

Power Switch P.C.B.
POWER Indicator
TEMP Indicator
LAMP Indicator
IRIS Indicator
Lamp Cover
Optical Cover
Front Cover Unit

<Rear View>


Projection Unit
Cover Switch P.C.B.
Color Wheel
Thermal Fuse
Fan 2
Fan 3
Color Wheel P.C.B.
Hall-S P.C.B.
Iris Unit
DMD Drive
P.C.B.
Ballast P.C.B.
Power P.C.B.
Iris P.C.B.
SD Card P.C.B.
Digital Tuner P.C.B.
Fan1
Front Jack
/Operation P.C.B.
Base P.C.B.
Main P.C.B.
TV Unit & Digital Tuner P.C.B.
Rear Cover

INDICATIONS FOR ERROR CONDITIONS

Each LED indication facilitates finding the cause of an error.
When an error is detected, the Lamp goes off and the LEDs on the front flash.

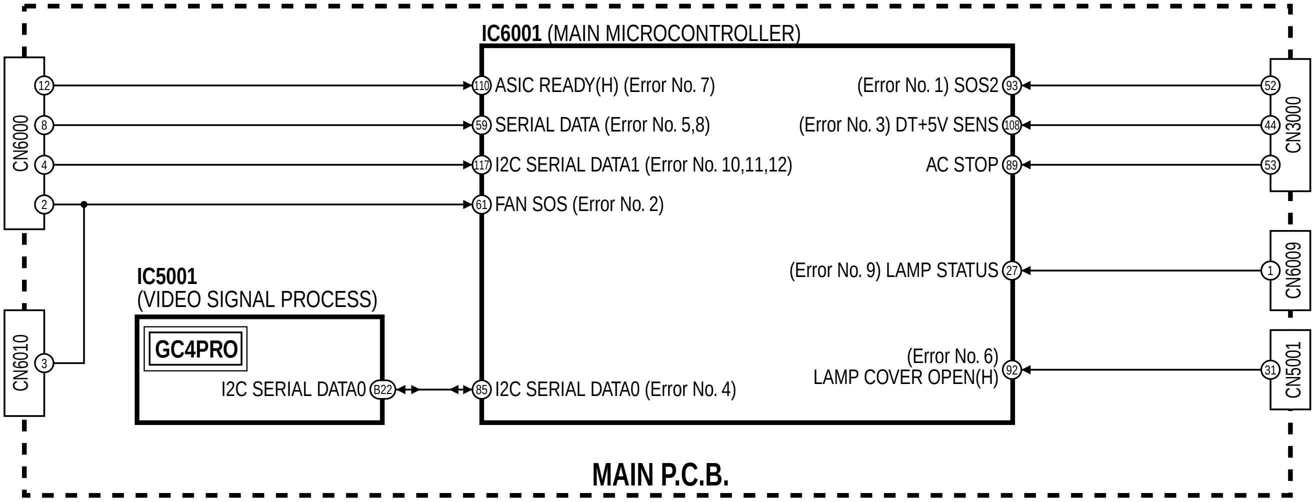


				(Note 4)	(Note 1, 2)	(Note 3)	
Error No.	Error Information	POWER Indicator flashes orange	TEMP Indicator flashes red	LAMP Indicator flashes red	SOS	LAMP OFF	RESET
1)	SOS2 (Over voltage/current)	1	-	-	H10SOS2	○	Power ON/OFF
2)	Fan 1, Fan 2 or Fan 3 stops	2	-	-	H20FANST	○	AC ON/OFF
3)	Abnormal voltage (DT+5V line)	3	-	-	H30DT9V	○	Power ON/OFF
4)	IC5001 (GC4PRO) communication error	5	-	-	H50GC4PR	○	AC ON/OFF
5)	Abnormal Color Wheel rotation	6	-	-	-	○	
6)	Lamp Cover open	7	-	-	(H70LAMCV)	○	Power ON/OFF
7)	IC2008 (DMD Control) ASIC READY is incomplete	8	-	-	(H80ASCRY)	○	
8)	Abnormal Temperature	-	1	-	H60CWSTP	○	
9)	Abnormal Lamp	-	-	1	-	○	
10)	Iris Mechanism hardware error	-	-	2	-	-	
11)	Iris calibration error	-	-	3	-	-	
12)	Iris communication error	-	-	4	-	-	

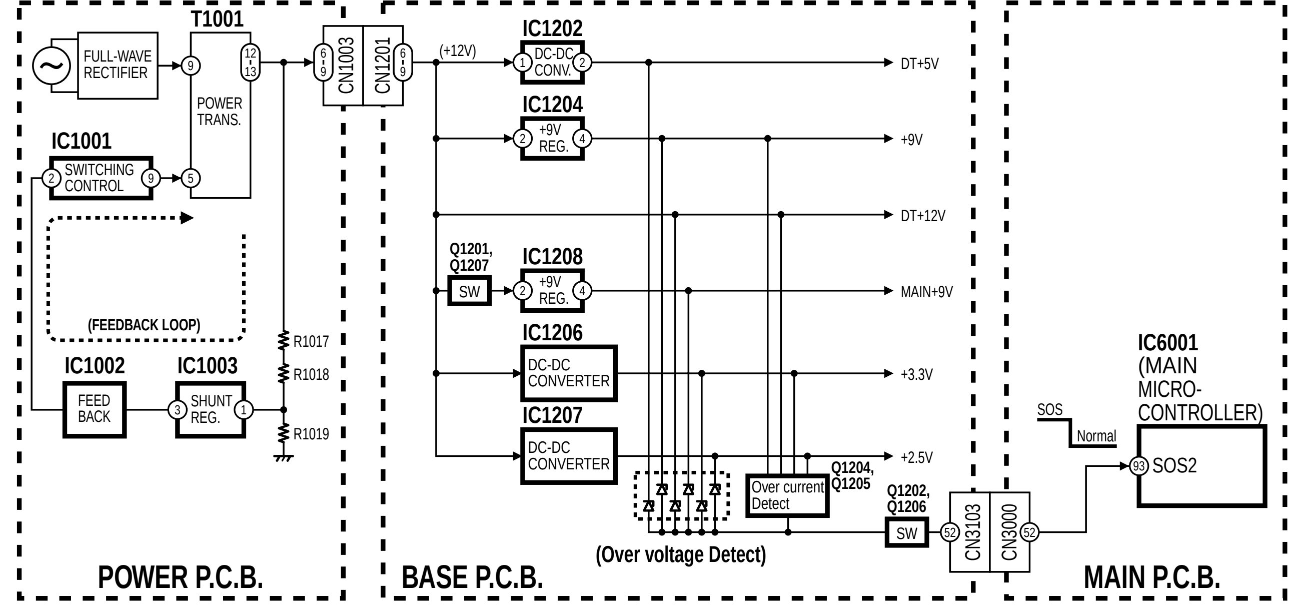
Note:
1. The detected SOS Error 1) 2) 3) 4) 6) 7) 8) data will be stored in the EEPROM.
2. SOS (Error) information is displayed in Service Mode (4/4).
3. LAMP OFF: The Indicator will flash immediately after the Lamp goes off.
4. **In case of Error 10) or 11), the unit will not shut off and Dynamic Iris setting in Adv. adjust of Picture Menu will be changed to "OFF" automatically. When the unit is turned off and turned back on,**
   Dynamic Iris "OFF" setting remains. Lamp Indicator will not flash as long as Dynamic Iris setting in Adv. adjust of Picture Menu is set to "ON" manually.
   In case of Error 12), the unit will not shut off and Dynamic Iris setting will not be changed to "OFF" automatically.

Protection Circuit

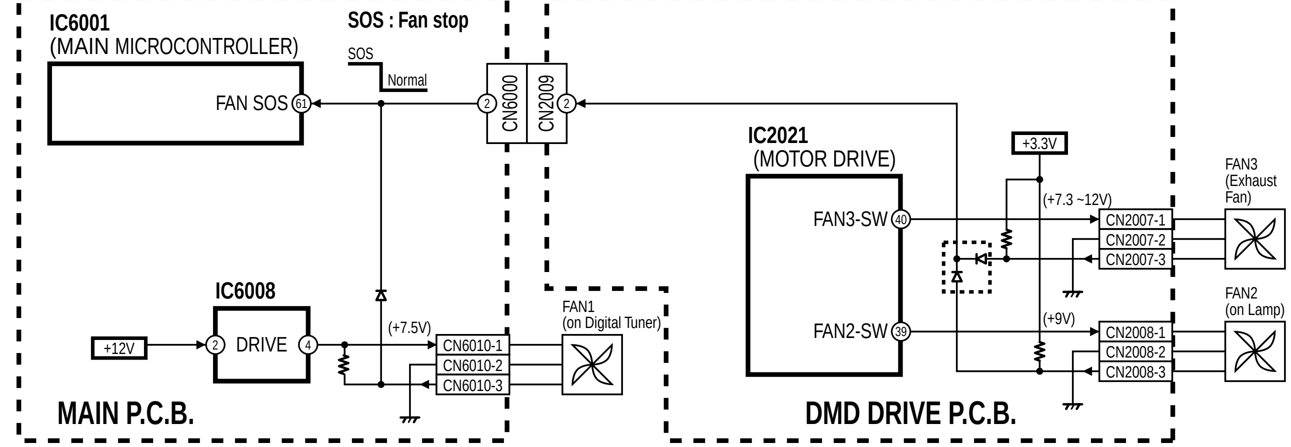
SOS terminal of IC6001 (Main microcontroller)


IC6001 (MAIN MICROCONTROLLER)
CN6000
12
8
4
2
110 ASIC READY(H) (Error No. 7)
59 SERIAL DATA (Error No. 5,8)
117 I2C SERIAL DATA1 (Error No. 10,11,12)
61 FAN SOS (Error No. 2)
(Error No. 1) SOS2 93
(Error No. 3) DT+5V SENS 108
AC STOP 89
52
44
53
CN3000
(Error No. 9) LAMP STATUS 27
1
CN6009
IC5001
(VIDEO SIGNAL PROCESS)
GC4PRO
I2C SERIAL DATA0 B22
85 I2C SERIAL DATA0 (Error No. 4)
(Error No. 6)
LAMP COVER OPEN(H) 92
31
CN5001
CN6010
3
MAIN P.C.B.

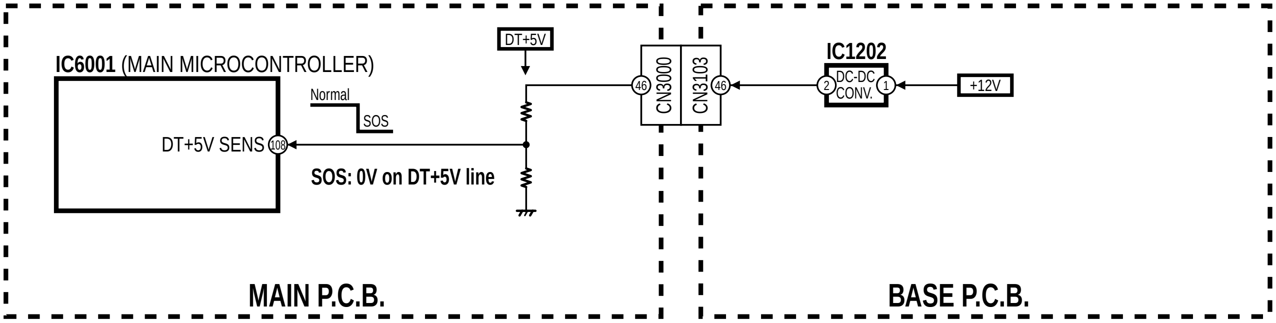
1) SOS2 (over voltage/current detect) detection circuit [POWER Indicator one blink]


T1001
FULL-WAVE RECTIFIER
9
12
13
POWER TRANS.
5
IC1001
SWITCHING CONTROL
2
9
(FEEDBACK LOOP)
R1017
R1018
R1019
IC1002
FEED BACK
IC1003
SHUNT REG.
3
1
CN1003
CN1201
6
9
(+12V)
IC1202
DC-DC CONV.
1
2
DT+5V
IC1204
+9V REG.
2
4
+9V
DT+12V
Q1201, Q1207
SW
IC1208
+9V REG.
MAIN+9V
IC1206
DC-DC CONVERTER
+3.3V
IC1207
DC-DC CONVERTER
+2.5V
Over current Detect
Q1204, Q1205
Q1202, Q1206
SW
52
CN3103
CN3000
52
(Over voltage Detect)
IC6001
(MAIN MICRO-CONTROLLER)
SOS
Normal
93 SOS2
POWER P.C.B.
BASE P.C.B.
MAIN P.C.B.

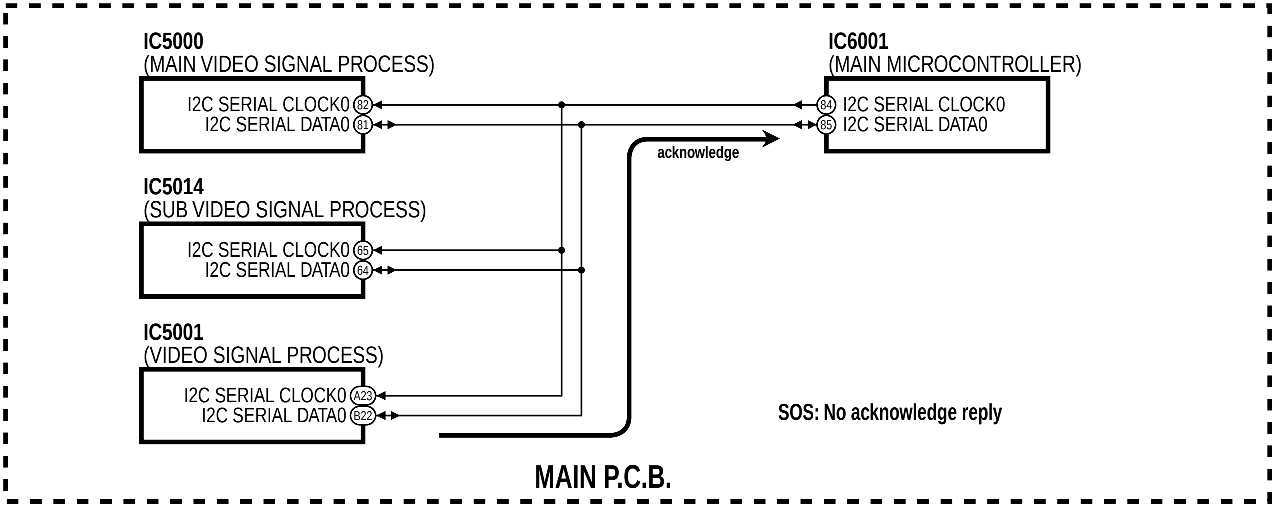
2) Fan1, Fan2 or Fan3 stops detection circuit [POWER Indicator two blinks]


IC6001
(MAIN MICROCONTROLLER)
SOS : Fan stop
SOS
Normal
FAN SOS 61
2
CN6000
CN2009
2
IC2021
(MOTOR DRIVE)
+3.3V
(+7.3 ~12V)
FAN3-SW 40
CN2007-1
CN2007-2
CN2007-3
FAN3
(Exhaust Fan)
FAN2
(on Lamp)
(+9V)
FAN2-SW 39
CN2008-1
CN2008-2
CN2008-3
IC6008
+12V
2 DRIVE 4
(+7.5V)
CN6010-1
CN6010-2
CN6010-3
FAN1
(on Digital Tuner)
MAIN P.C.B.
DMD DRIVE P.C.B.

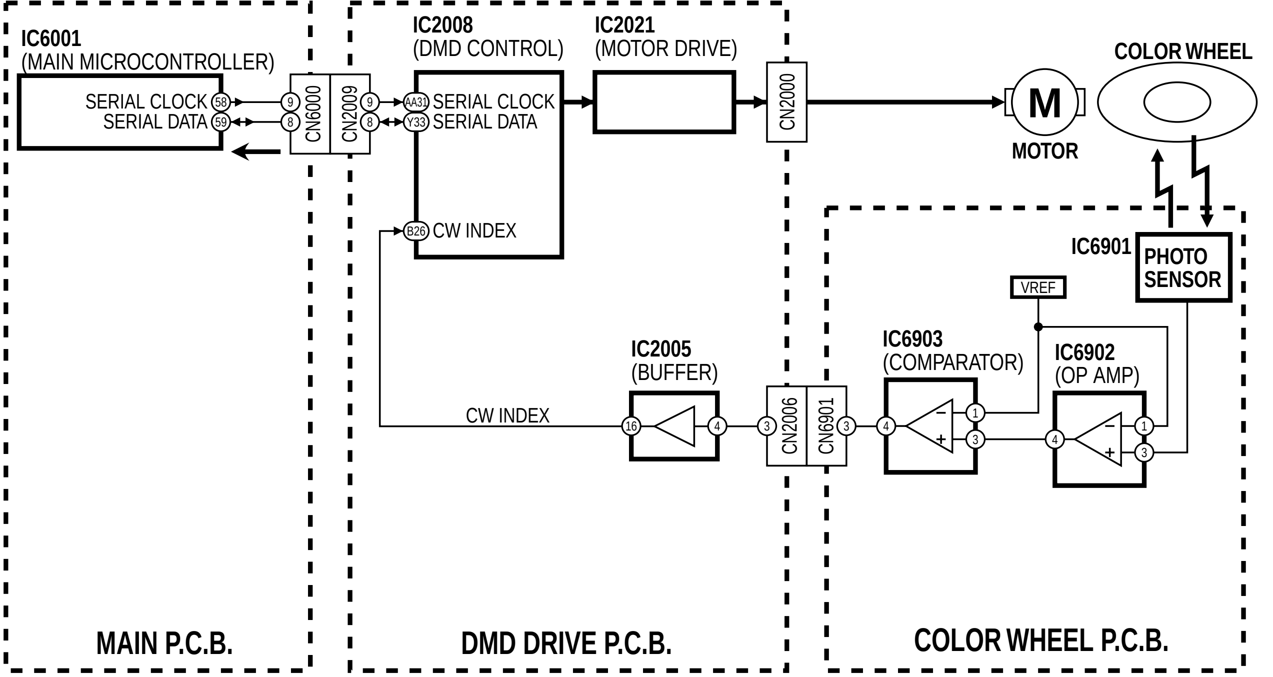
3) Abnormal voltage (DT+5V line) detection circuit [POWER Indicator three blinks]


IC6001 (MAIN MICROCONTROLLER)
DT+5V SENS
108
Normal
SOS
SOS: 0V on DT+5V line
DT+5V
46
CN3000
CN3103
46
IC1202
2
DC-DC CONV.
1
+12V
MAIN P.C.B.
BASE P.C.B.

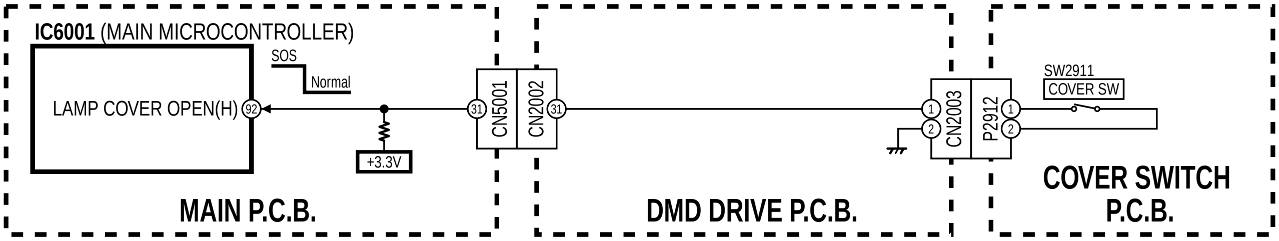
4) IC5001 (GC4PRO) communication error detection circuit [POWER Indicator five blinks]


IC5000
(MAIN VIDEO SIGNAL PROCESS)
I2C SERIAL CLOCK0 82
I2C SERIAL DATA0 81
IC5014
(SUB VIDEO SIGNAL PROCESS)
I2C SERIAL CLOCK0 65
I2C SERIAL DATA0 64
IC5001
(VIDEO SIGNAL PROCESS)
I2C SERIAL CLOCK0 A23
I2C SERIAL DATA0 B22
IC6001
(MAIN MICROCONTROLLER)
84 I2C SERIAL CLOCK0
85 I2C SERIAL DATA0
acknowledge
SOS: No acknowledge reply
MAIN P.C.B.

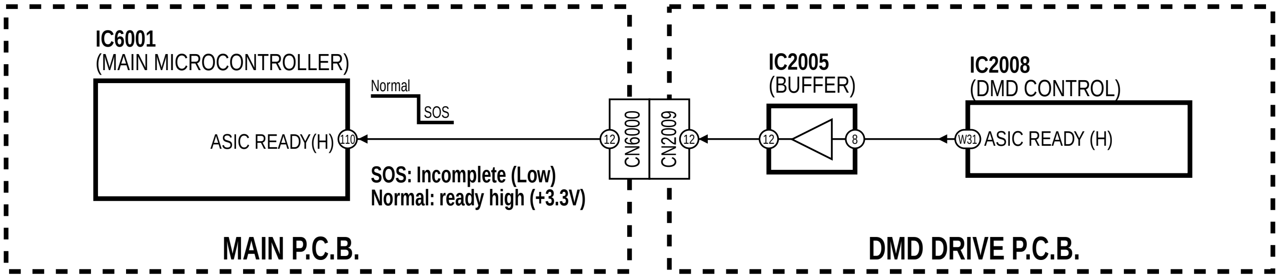
5) Abnormal Color Wheel rotation detection circuit [POWER Indicator six blinks]


IC6001
(MAIN MICROCONTROLLER)
SERIAL CLOCK 58
SERIAL DATA 59
9
8
CN6000
CN2009
9
8
IC2008
(DMD CONTROL)
AA31 SERIAL CLOCK
Y33 SERIAL DATA
B26 CW INDEX
IC2021
(MOTOR DRIVE)
CN2000
M
MOTOR
COLOR WHEEL
IC6901
PHOTO SENSOR
VREF
IC6903
(COMPARATOR)
IC6902
(OP AMP)
IC2005
(BUFFER)
CW INDEX
16
4
3
CN2006
CN6901
3
4
1
3
4
1
3
MAIN P.C.B.
DMD DRIVE P.C.B.
COLOR WHEEL P.C.B.

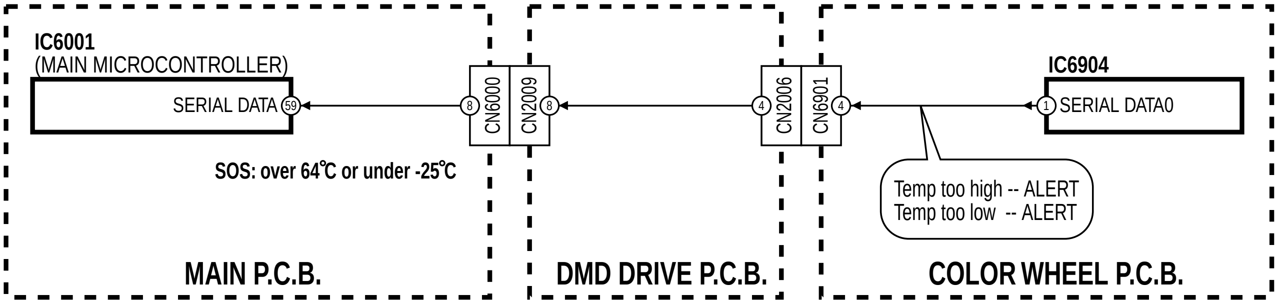
6) Lamp cover open detection circuit [POWER Indicator seven blinks]


IC6001 (MAIN MICROCONTROLLER)
LAMP COVER OPEN(H)
92
SOS
Normal
+3.3V
31
CN5001
CN2002
31
1
2
CN2003
P2912
1
2
SW2911
COVER SW
MAIN P.C.B.
DMD DRIVE P.C.B.
COVER SWITCH P.C.B.

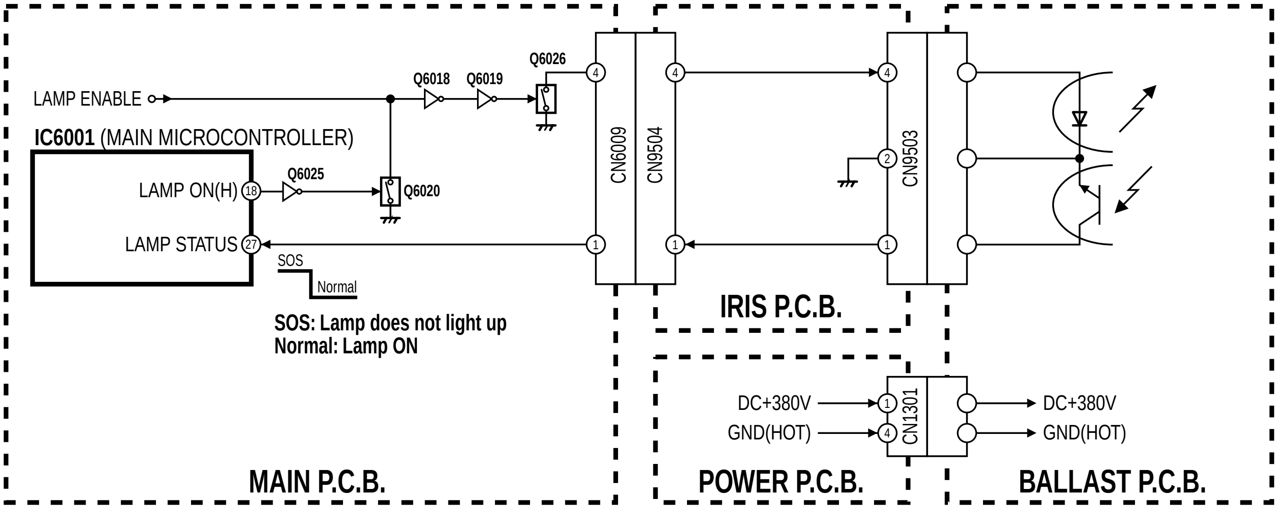
7) IC2008 (DMD Control) ASIC READY is incomplete detection circuit [POWER Indicator eight blinks]


IC6001
(MAIN MICROCONTROLLER)
ASIC READY(H)
110
Normal
SOS
SOS: Incomplete (Low)
Normal: ready high (+3.3V)
12
CN6000
CN2009
12
IC2005
(BUFFER)
12
8
IC2008
(DMD CONTROL)
W31
ASIC READY (H)
MAIN P.C.B.
DMD DRIVE P.C.B.

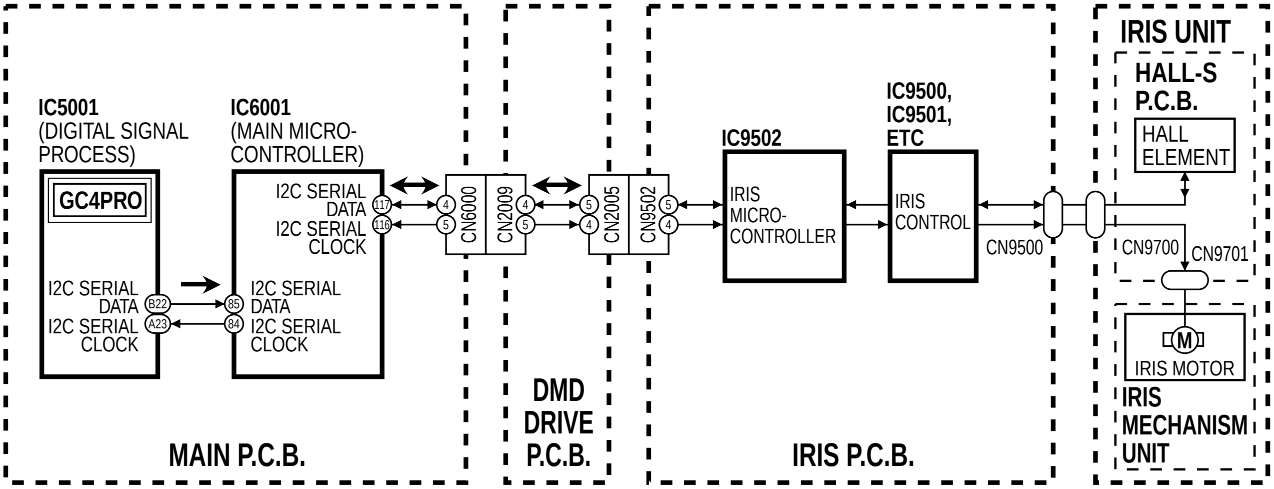
8) Abnormal Temperature detection circuit [TEMP Indicator one blink]


IC6001
(MAIN MICROCONTROLLER)
SERIAL DATA
59
8
CN6000
CN2009
8
4
CN2006
CN6901
4
IC6904
1
SERIAL DATA0
SOS: over 64℃ or under -25℃
Temp too high -- ALERT
Temp too low -- ALERT
MAIN P.C.B.
DMD DRIVE P.C.B.
COLOR WHEEL P.C.B.

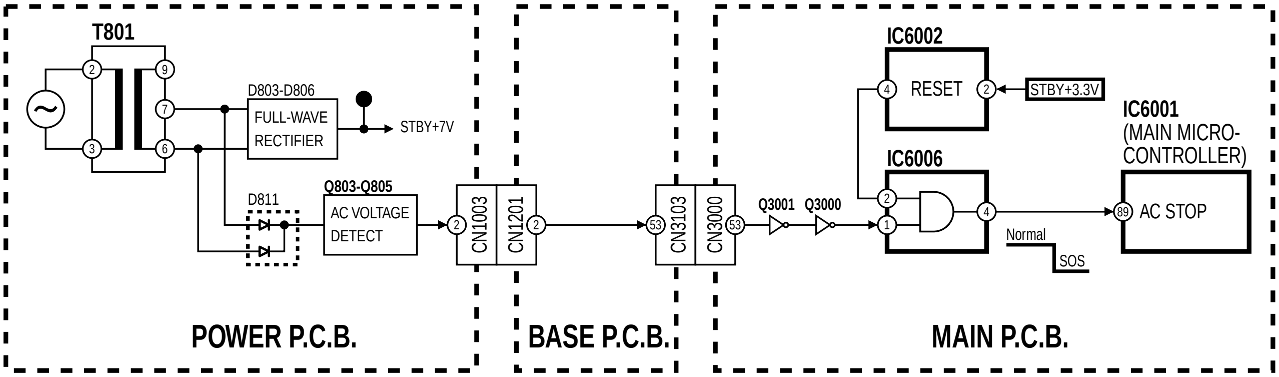
9) Abnormal Lamp detection circuit [LAMP Indicator one blink]


LAMP ENABLE
Q6018
Q6019
Q6026
IC6001 (MAIN MICROCONTROLLER)
LAMP ON(H)
18
Q6025
Q6020
LAMP STATUS
27
SOS
Normal
SOS: Lamp does not light up
Normal: Lamp ON
4
CN6009
CN9504
4
1
1
4
2
CN9503
1
IRIS P.C.B.
DC+380V
GND(HOT)
1
4
CN1301
DC+380V
GND(HOT)
MAIN P.C.B.
POWER P.C.B.
BALLAST P.C.B.

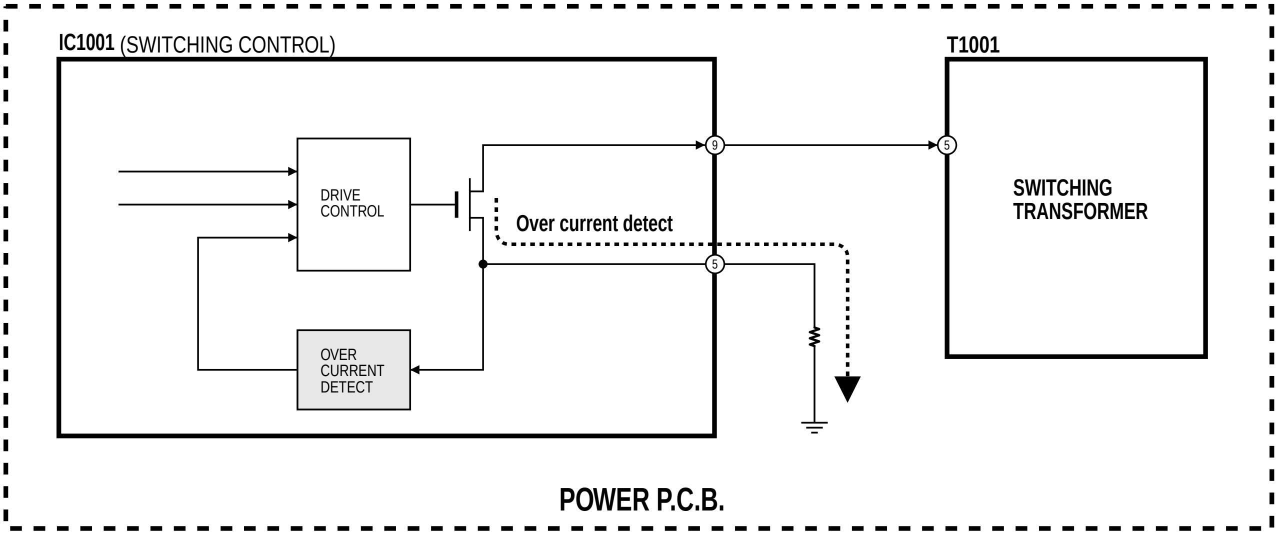
10), 11), 12) Iris Mechanism hardware error/Iris calibration error detection circuit /Iris communication error detection circuit [LAMP Indicator two, three or four blinks]


IC5001
(DIGITAL SIGNAL PROCESS)
GC4PRO
I2C SERIAL DATA
B22
I2C SERIAL CLOCK
A23
IC6001
(MAIN MICRO-CONTROLLER)
I2C SERIAL DATA
117
I2C SERIAL CLOCK
116
85
I2C SERIAL DATA
84
I2C SERIAL CLOCK
4
5
CN6000
CN2009
4
5
5
4
CN2005
CN9502
5
4
IC9502
IRIS MICRO-CONTROLLER
IC9500,
IC9501,
ETC
IRIS CONTROL
CN9500
IRIS UNIT
HALL-S P.C.B.
HALL ELEMENT
CN9700
CN9701
M
IRIS MOTOR
IRIS MECHANISM UNIT
MAIN P.C.B.
DMD DRIVE P.C.B.
IRIS P.C.B.

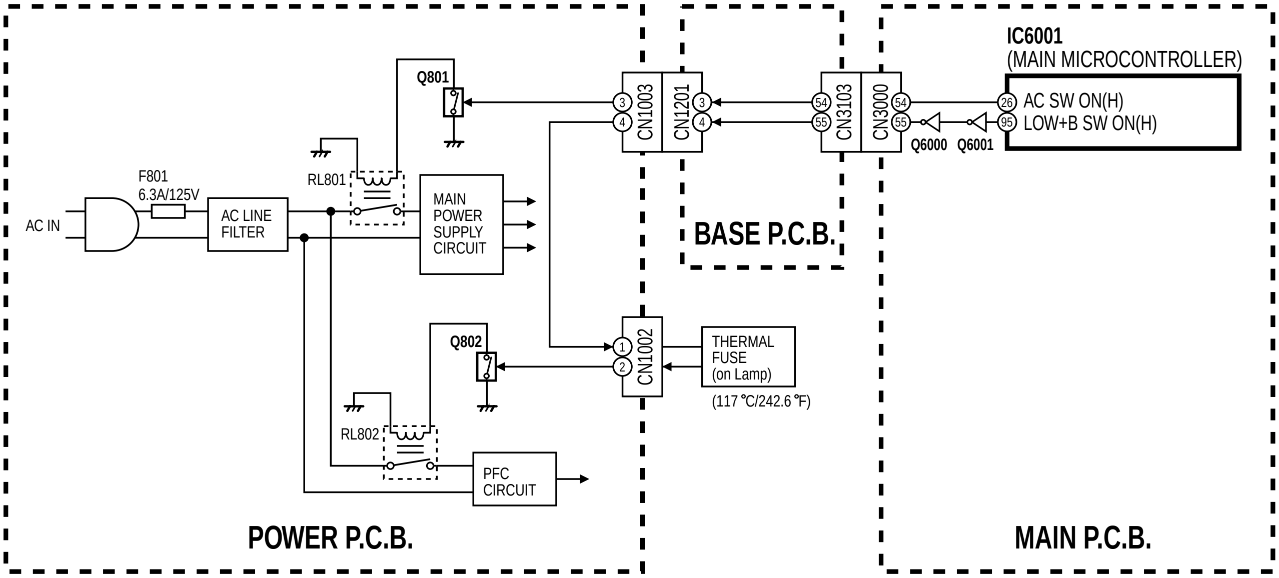
● AC stop detection circuit


T801
D803-D806
FULL-WAVE RECTIFIER
STBY+7V
D811
Q803-Q805
AC VOLTAGE DETECT
CN1003
CN1201
CN3103
CN3000
Q3001
Q3000
IC6002
RESET
STBY+3.3V
IC6006
IC6001 (MAIN MICRO-CONTROLLER)
AC STOP
Normal
SOS
POWER P.C.B.
BASE P.C.B.
MAIN P.C.B.

● Over current detection circuit


IC1001 (SWITCHING CONTROL)
T1001
DRIVE CONTROL
Over current detect
OVER CURRENT DETECT
SWITCHING TRANSFORMER
POWER P.C.B.

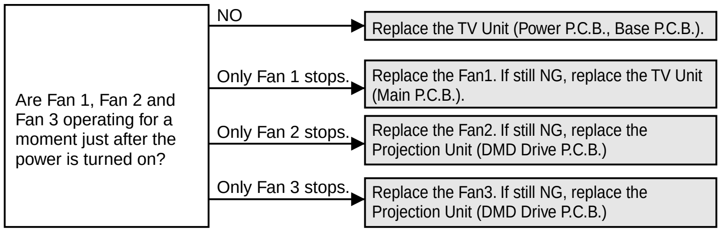
● Abnormal Temperature (Thermal fuse) detection circuit


Q801
F801 6.3A/125V
RL801
AC IN
AC LINE FILTER
MAIN POWER SUPPLY CIRCUIT
Q802
RL802
PFC CIRCUIT
CN1003
CN1201
CN3103
CN3000
CN1002
THERMAL FUSE (on Lamp)
(117 °C/242.6 °F)
IC6001 (MAIN MICROCONTROLLER)
AC SW ON(H)
LOW+B SW ON(H)
Q6000
Q6001
POWER P.C.B.
BASE P.C.B.
MAIN P.C.B.

How to solve problems indicated by the Error Indication

(The symptom of all errors is that Lamp goes off or Lamp does not light up)

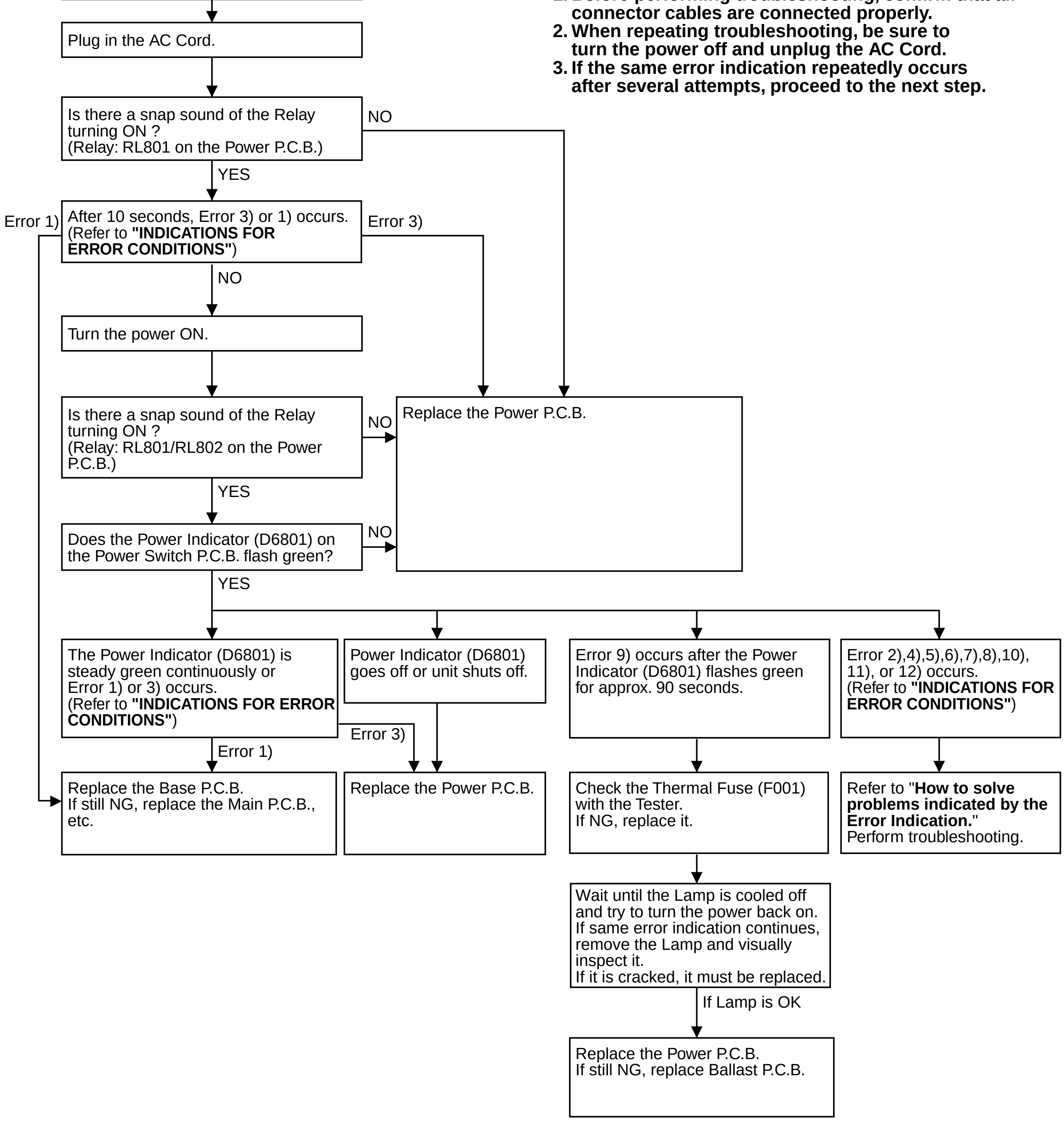
Note: Before performing the troubleshooting, confirm that all connector cables in the unit are connected correctly.

Error No.	Problem	Possible Solution
1)	**[POWER Indicator one blink]** Following voltage lines on the Base P.C.B. is over current. • +9V line • DT+12V line • +3.3V line • +2.5V line Following voltage lines on the Base P.C.B. is over voltage. • DT+5V line • +9V line • DT+12V line • MAIN+9V line • +3.3V line • +2.5V line	1. Replace the TV Unit (Base P.C.B.). 2. If still NG, replace the TV Unit (Main P.C.B, etc.).
2)	**[POWER Indicator two blinks]** Cooling Fan (Fan 1, Fan 2 and/or Fan 3) malfunction.	 Are Fan 1, Fan 2 and Fan 3 operating for a moment just after the power is turned on? NO → Replace the TV Unit (Power P.C.B., Base P.C.B.). Only Fan 1 stops. → Replace the Fan1. If still NG, replace the TV Unit (Main P.C.B.). Only Fan 2 stops. → Replace the Fan2. If still NG, replace the Projection Unit (DMD Drive P.C.B.) Only Fan 3 stops. → Replace the Fan3. If still NG, replace the Projection Unit (DMD Drive P.C.B.)
3)	**[POWER Indicator three blinks]** DT+5V line error.	1. Replace the Projection Unit (Power P.C.B.). 2. If still NG, replace the TV Unit (Base P.C.B).
4)	**[POWER Indicator five blinks]** Communication error I2C SERIAL DATA for between IC6001 (Pin 85) and IC5001 (Pin B22) on the Main P.C.B.	Replace the TV Unit (Main P.C.B.).
5)	**[POWER Indicator six blinks]** Color Wheel rotation error.	1. Replace the Color Wheel. 2. Replace the Projection Unit (Color Wheel P.C.B., DMD Drive P.C.B.).
6)	**[POWER Indicator seven blinks]** Mis-installed Lamp Cover (the Lamp cover is open).	1. Install the Lamp Cover Unit properly. 2. If still NG, check and replace the Cover Switch P.C.B. 3. If still NG, replace the TV Unit (Main P.C.B.).
7)	**[POWER Indicator eight blinks]** Communication error between IC6001 (Main Microcontroller) on the Main P.C.B. and IC2008 (DMD Control) on the DMD Drive P.C.B.	1. Replace the Projection Unit (DMD Drive P.C.B.). 2. Replace the TV Unit (Main P.C.B.).
8)	**[TEMP Indicator one blinks]** Abnormal temperature (more than 64 ˚C or less than -25 ˚C) of sensor of the Color Wheel P.C.B.	1. Relocate the unit to a proper location. • Do not place in direct sunlight and other sources of direct heat. • Do not place the unit in humid or dusty location, or areas exposed to smoke or steam. (surrounding temperature should be between 0 ˚C (32 ˚F) and 35 ˚C (95 ˚F) and humidity should be between 20 % and 80 % (with no condensation).) • The vents are not blocked. It is recommended that a gap of at least 10 cm is left all around the unit even when it is placed inside a cabinet or between shelves. 2. Check if the fans are operating properly.
9)	**[LAMP Indicator one blink]** 1. The Lamp is defective (crack). 2. The Ballast P.C.B. is defective. 3. The Power P.C.B. is defective.	1. Wait until the Lamp is cooled off and try to turn the power back on. If same error LED indication continues, remove the Lamp and visually inspect it. If it is cracked, it must be replaced. 2. Replace the Ballast P.C.B. 3. Replace the Projection Unit (Power P.C.B.).
10)	**[LAMP Indicator two blinks]** When the Iris Mechanism fails to reach the objective angle of +/- 2° in two consecutive seconds.	Replace the Projection Unit.
11)	**[LAMP Indicator three blinks]** When power is turned on, the Iris Mechanism performs calibration to incorporate variations detected by the Hall Sensor. A maximum current (+) and (-) is supplied to the Motor and the Mechanism moves to the full-open/ full-close position. An error occurs when this angle is measured by the Hall Sensor and full-open/ full-close is not reached, or when the angle difference is outside the controllable range.	(First, confirm that Connector CN9500 on the Iris P.C.B. is connected correctly.) 1. Replace the Projection Unit.
12)	**[LAMP Indicator four blinks]** Communication error between IC6001 (Main Microcontroller) on the Main P.C.B. and IC2008 (DMD Control) on the DMD Drive P.C.B. and IC9502 (Iris Microcontroller) on the Iris P.C.B.	(First, confirm that Connector CN9502 on the Iris P.C.B. is connected correctly.) 1. Replace the Iris P.C.B. 2. Replace the TV Unit (Main P.C.B.).

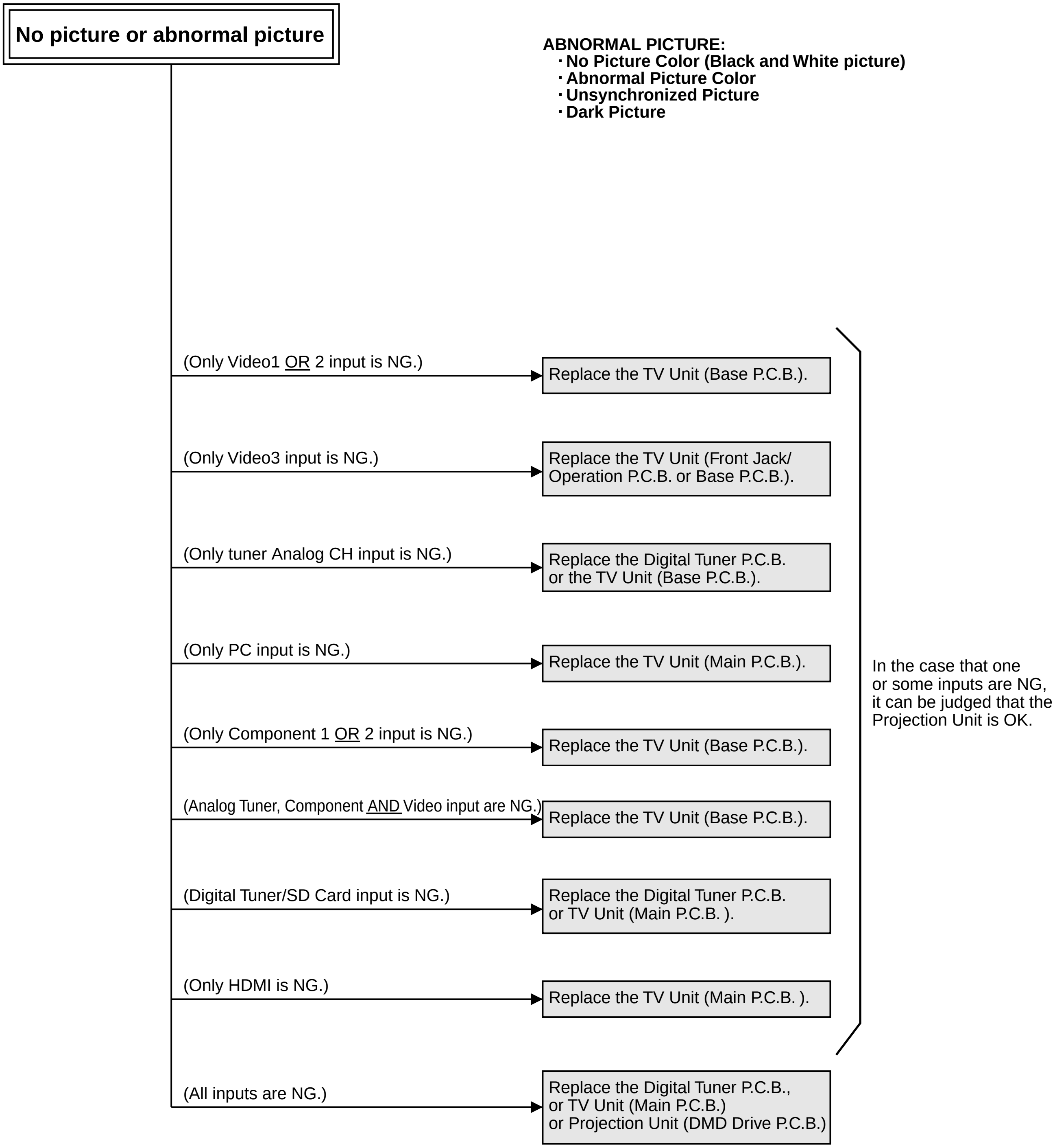
LAMP DOES NOT LIGHT UP

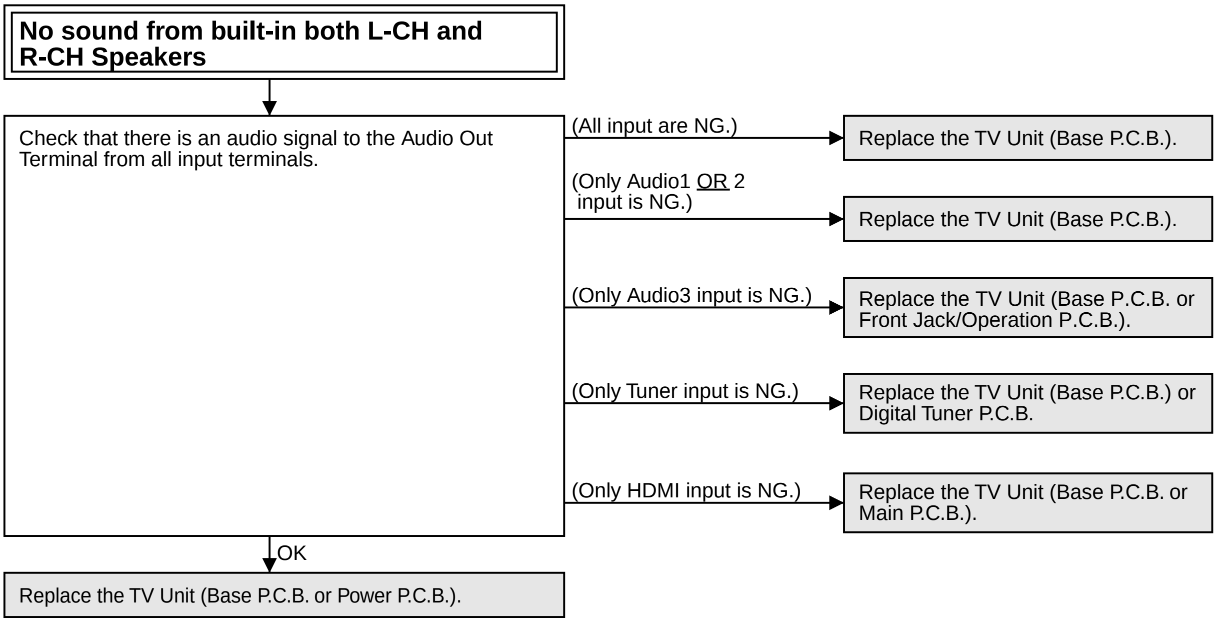
Note:

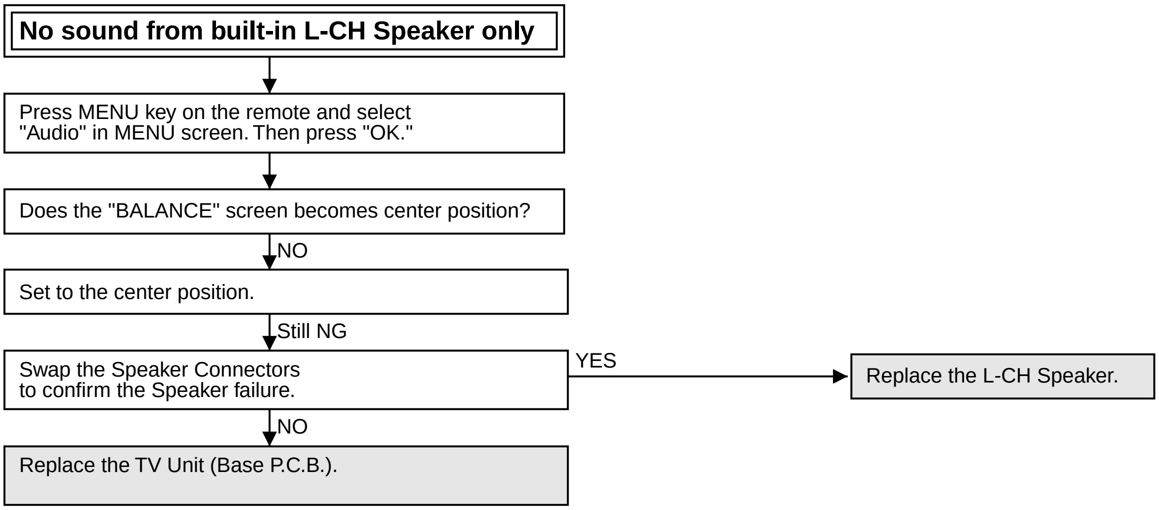
1. **Before performing troubleshooting, confirm that all connector cables are connected properly.**
2. **When repeating troubleshooting, be sure to turn the power off and unplug the AC Cord.**
3. **If the same error indication repeatedly occurs after several attempts, proceed to the next step.**

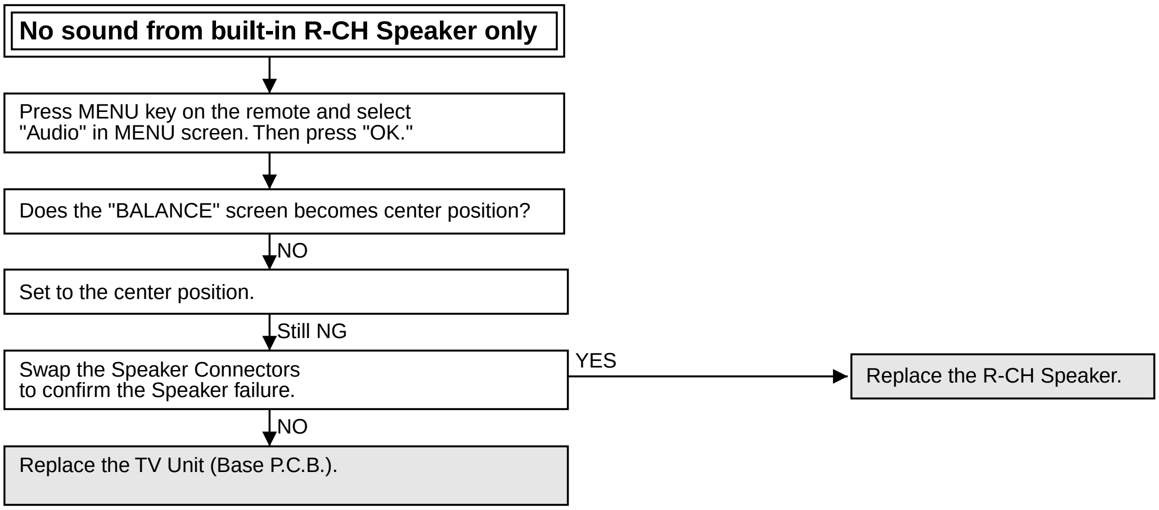

Plug in the AC Cord.
Is there a snap sound of the Relay turning ON ? (Relay: RL801 on the Power P.C.B.)
NO
YES
After 10 seconds, Error 3) or 1) occurs. (Refer to "INDICATIONS FOR ERROR CONDITIONS")
Error 1)
Error 3)
NO
Turn the power ON.
Is there a snap sound of the Relay turning ON ? (Relay: RL801/RL802 on the Power P.C.B.)
NO
Replace the Power P.C.B.
YES
Does the Power Indicator (D6801) on the Power Switch P.C.B. flash green?
NO
YES
The Power Indicator (D6801) is steady green continuously or Error 1) or 3) occurs. (Refer to "INDICATIONS FOR ERROR CONDITIONS")
Power Indicator (D6801) goes off or unit shuts off.
Error 9) occurs after the Power Indicator (D6801) flashes green for approx. 90 seconds.
Error 2),4),5),6),7),8),10), 11), or 12) occurs. (Refer to "INDICATIONS FOR ERROR CONDITIONS")
Error 3)
Error 1)
Replace the Base P.C.B. If still NG, replace the Main P.C.B., etc.
Replace the Power P.C.B.
Check the Thermal Fuse (F001) with the Tester. If NG, replace it.
Refer to "How to solve problems indicated by the Error Indication." Perform troubleshooting.
Wait until the Lamp is cooled off and try to turn the power back on. If same error indication continues, remove the Lamp and visually inspect it. If it is cracked, it must be replaced.
If Lamp is OK
Replace the Power P.C.B. If still NG, replace Ballast P.C.B.

HOW TO DETERMINE WHICH P.C.B. IS DEFECTIVE

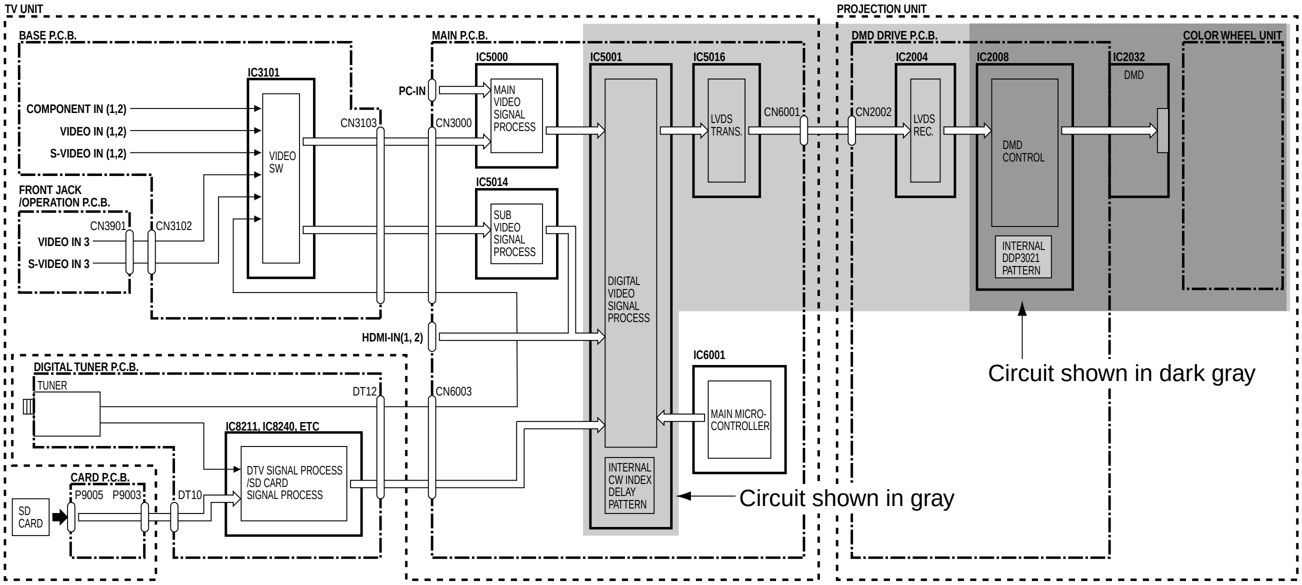

No picture or abnormal picture
ABNORMAL PICTURE:
· No Picture Color (Black and White picture)
· Abnormal Picture Color
· Unsynchronized Picture
· Dark Picture
(Only Video1 OR 2 input is NG.)
Replace the TV Unit (Base P.C.B.).
(Only Video3 input is NG.)
Replace the TV Unit (Front Jack/ Operation P.C.B. or Base P.C.B.).
(Only tuner Analog CH input is NG.)
Replace the Digital Tuner P.C.B. or the TV Unit (Base P.C.B.).
(Only PC input is NG.)
Replace the TV Unit (Main P.C.B.).
(Only Component 1 OR 2 input is NG.)
Replace the TV Unit (Base P.C.B.).
(Analog Tuner, Component AND Video input are NG.)
Replace the TV Unit (Base P.C.B.).
(Digital Tuner/SD Card input is NG.)
Replace the Digital Tuner P.C.B. or TV Unit (Main P.C.B.).
(Only HDMI is NG.)
Replace the TV Unit (Main P.C.B.).
In the case that one or some inputs are NG, it can be judged that the Projection Unit is OK.
(All inputs are NG.)
Replace the Digital Tuner P.C.B., or TV Unit (Main P.C.B.) or Projection Unit (DMD Drive P.C.B.)


No sound from built-in both L-CH and R-CH Speakers
Check that there is an audio signal to the Audio Out Terminal from all input terminals.
(All input are NG.)
Replace the TV Unit (Base P.C.B.).
(Only Audio1 OR 2 input is NG.)
Replace the TV Unit (Base P.C.B.).
(Only Audio3 input is NG.)
Replace the TV Unit (Base P.C.B. or Front Jack/Operation P.C.B.).
(Only Tuner input is NG.)
Replace the TV Unit (Base P.C.B.) or Digital Tuner P.C.B.
(Only HDMI input is NG.)
Replace the TV Unit (Base P.C.B. or Main P.C.B.).
OK
Replace the TV Unit (Base P.C.B. or Power P.C.B.).


No sound from built-in L-CH Speaker only
Press MENU key on the remote and select "Audio" in MENU screen. Then press "OK."
Does the "BALANCE" screen becomes center position?
NO
Set to the center position.
Still NG
Swap the Speaker Connectors to confirm the Speaker failure.
YES
Replace the L-CH Speaker.
NO
Replace the TV Unit (Base P.C.B.).


No sound from built-in R-CH Speaker only
Press MENU key on the remote and select "Audio" in MENU screen. Then press "OK."
Does the "BALANCE" screen becomes center position?
NO
Set to the center position.
Still NG
Swap the Speaker Connectors to confirm the Speaker failure.
YES
Replace the R-CH Speaker.
NO
Replace the TV Unit (Base P.C.B.).

Tips for determining defective circuit in case of picture problem

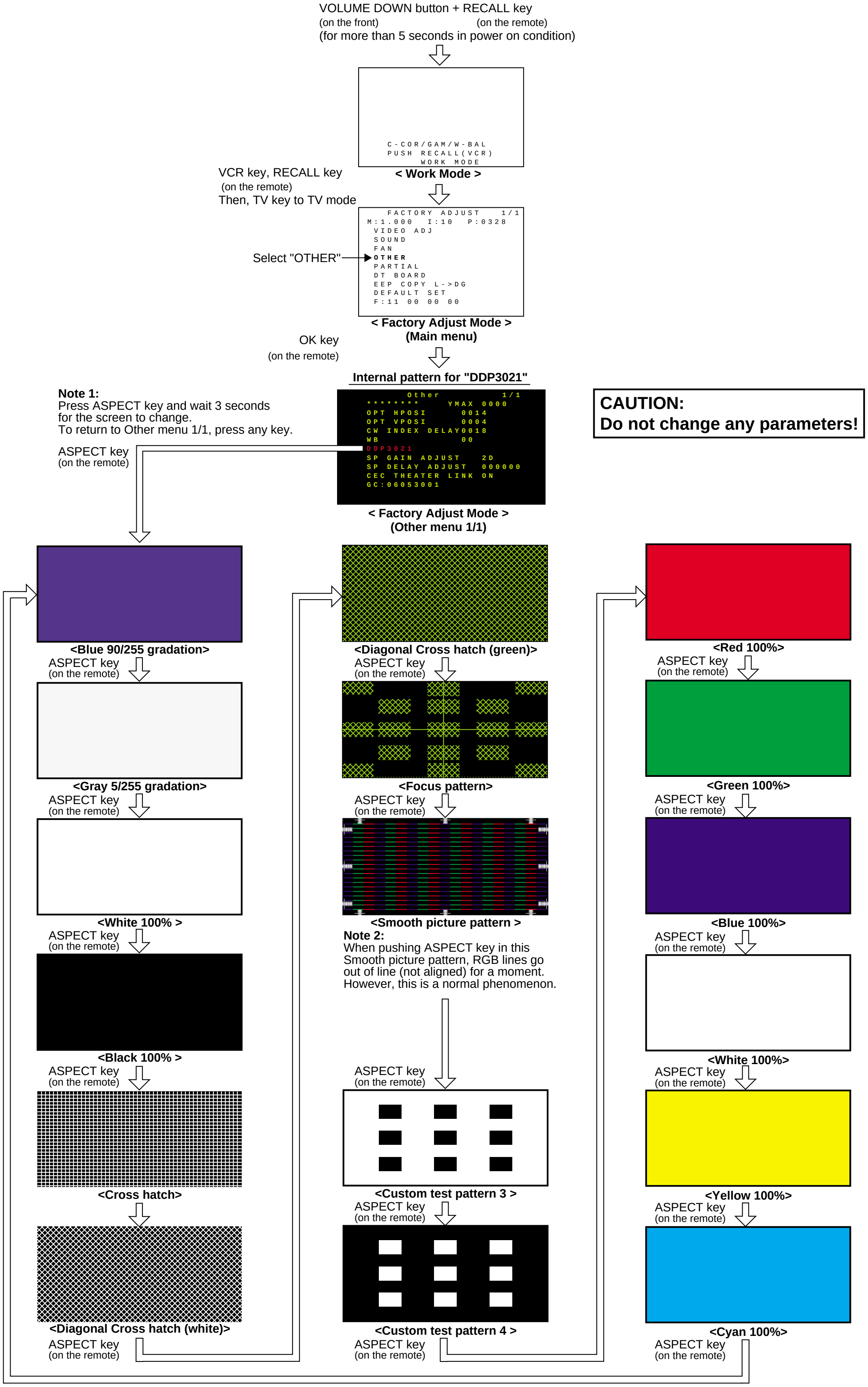

TV UNIT
BASE P.C.B.
COMPONENT IN (1,2)
VIDEO IN (1,2)
S-VIDEO IN (1,2)
IC3101
VIDEO SW
CN3103
FRONT JACK /OPERATION P.C.B.
CN3901
CN3102
VIDEO IN 3
S-VIDEO IN 3
MAIN P.C.B.
PC-IN
CN3000
IC5000
MAIN VIDEO SIGNAL PROCESS
IC5014
SUB VIDEO SIGNAL PROCESS
HDMI-IN(1, 2)
IC5001
DIGITAL VIDEO SIGNAL PROCESS
INTERNAL CW INDEX DELAY PATTERN
IC5016
LVDS TRANS.
CN6001
IC6001
MAIN MICRO-CONTROLLER
DIGITAL TUNER P.C.B.
TUNER
DT12
CN6003
IC8211, IC8240, ETC
DTV SIGNAL PROCESS /SD CARD SIGNAL PROCESS
CARD P.C.B.
P9005
P9003
DT10
SD CARD
PROJECTION UNIT
DMD DRIVE P.C.B.
CN2002
IC2004
LVDS REC.
IC2008
DMD CONTROL
INTERNAL DDP3021 PATTERN
IC2032
DMD
COLOR WHEEL UNIT

Circuit shown in dark gray

Circuit shown in gray

Display the internal pattern for "DDP3021" in Factory Adjust Mode. Refer to "HOW TO DISPLAY THE INTERNAL PATTERN FOR DDP3021" as shown in Figure A.	If the internal pattern is OK, the circuit shown in dark gray can be judged OK.
Display the internal pattern for "CW INDEX DELAY" in Factory Adjust Mode. Refer to "HOW TO DISPLAY THE INTERNAL PATTERN FOR CW INDEX DELAY" as shown in Figure B.	If the internal pattern is OK, the circuit shown in gray can be judged OK.

HOW TO DISPLAY THE INTERNAL PATTERN FOR DDP3021



VOLUME DOWN button + RECALL key
(on the front) (on the remote)
(for more than 5 seconds in power on condition)

```
C-COR/GAM/W-BAL
PUSH RECALL(VCR)
     WORK MODE
```

< Work Mode >

VCR key, RECALL key
(on the remote)
Then, TV key to TV mode

```
   FACTORY ADJUST    1/1
M:1.000  I:10  P:0328
 VIDEO ADJ
 SOUND
 FAN
 OTHER
 PARTIAL
 DT BOARD
 EEP COPY L->DG
 DEFAULT SET
 F:11 00 00 00
```

Select "OTHER"

< Factory Adjust Mode >
(Main menu)

OK key
(on the remote)

Internal pattern for "DDP3021"

```
         Other          1/1
********     YMAX 0000
OPT HPOSI       0014
OPT VPOSI       0004
CW INDEX DELAY0018
WB              00
DDP3021
SP GAIN ADJUST    2D
SP DELAY ADJUST   000000
CEC THEATER LINK ON
GC:06053001
```

< Factory Adjust Mode >
(Other menu 1/1)

Note 1:
Press ASPECT key and wait 3 seconds for the screen to change.
To return to Other menu 1/1, press any key.

ASPECT key
(on the remote)

CAUTION:
Do not change any parameters!

<Blue 90/255 gradation>
ASPECT key
(on the remote)

<Gray 5/255 gradation>
ASPECT key
(on the remote)

<White 100% >
ASPECT key
(on the remote)

<Black 100% >
ASPECT key
(on the remote)

<Cross hatch>

<Diagonal Cross hatch (white)>
ASPECT key
(on the remote)

<Diagonal Cross hatch (green)>
ASPECT key
(on the remote)

<Focus pattern>
ASPECT key
(on the remote)

<Smooth picture pattern >

Note 2:
When pushing ASPECT key in this Smooth picture pattern, RGB lines go out of line (not aligned) for a moment.
However, this is a normal phenomenon.

ASPECT key
(on the remote)

<Custom test pattern 3 >
ASPECT key
(on the remote)

<Custom test pattern 4 >
ASPECT key
(on the remote)

<Red 100%>
ASPECT key
(on the remote)

<Green 100%>
ASPECT key
(on the remote)

<Blue 100%>
ASPECT key
(on the remote)

<White 100%>
ASPECT key
(on the remote)

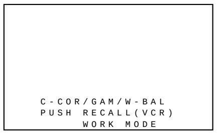
<Yellow 100%>
ASPECT key
(on the remote)

<Cyan 100%>
ASPECT key
(on the remote)

Figure. A

HOW TO DISPLAY THE INTERNAL PATTERN FOR CW INDEX DELAY

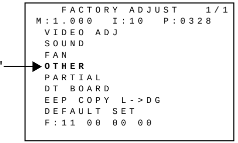
VOLUME DOWN button + RECALL key
(on the front) (on the remote)
(for more than 5 seconds in power on condition)



```
C-COR/GAM/W-BAL
PUSH RECALL(VCR)
    WORK MODE
```

< Work Mode >

VCR key, RECALL key
(on the remote)
Then, TV key to TV mode



```
   FACTORY ADJUST   1/1
M:1.000  I:10  P:0328
 VIDEO ADJ
 SOUND
 FAN
 OTHER
 PARTIAL
 DT BOARD
 EEP COPY L->DG
 DEFAULT SET
 F:11 00 00 00
```

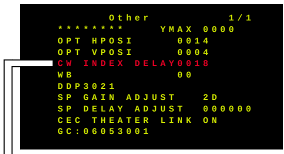
Select "OTHER"

< Factory Adjust Mode >
(Main menu)

CAUTION:
Do not change any parameters!

OK key
(on the remote)

Internal pattern for "CW INDEX DELAY"

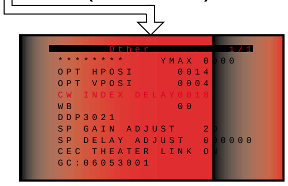


```
      Other          1/1
********    YMAX 0000
OPT HPOSI       0014
OPT VPOSI       0004
CW INDEX DELAY0018
WB              00
DDP3021
SP GAIN ADJUST    2D
SP DELAY ADJUST   000000
CEC THEATER LINK ON
GC:06053001
```

Note 3:
Press ASPECT key to change the screen.
To return to Other menu 1/1, press any key.

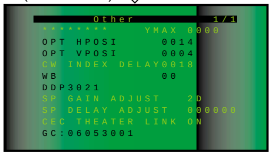
ASPECT key
(on the remote)

< Factory Adjust Mode >
(Other menu 1/1)



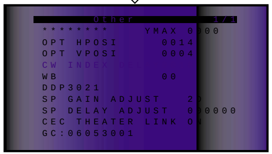
<Red ramp pattern>

ASPECT key
(on the remote)



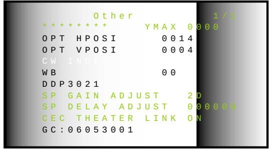
<Green ramp pattern>

ASPECT key
(on the remote)



<Blue ramp pattern>

ASPECT key
(on the remote)



<White ramp pattern>

ASPECT key
or any key
(on the remote)

Figure. B

8 Disassembly and Assembly Instructions

8.1. Cabinet Section

DISASSEMBLY METHOD FOR CABINET

Cabinet removal procedures:

REMOVAL OF THE PROJECTION UNIT FROM THE CABINET

REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER P.C.B. FROM THE CABINET

REMOVAL OF THE BASE BODY UNIT

REMOVAL OF THE POWER P.C.B. FROM THE CABINET

REMOVAL OF THE BALLAST P.C.B. FROM THE CABINET

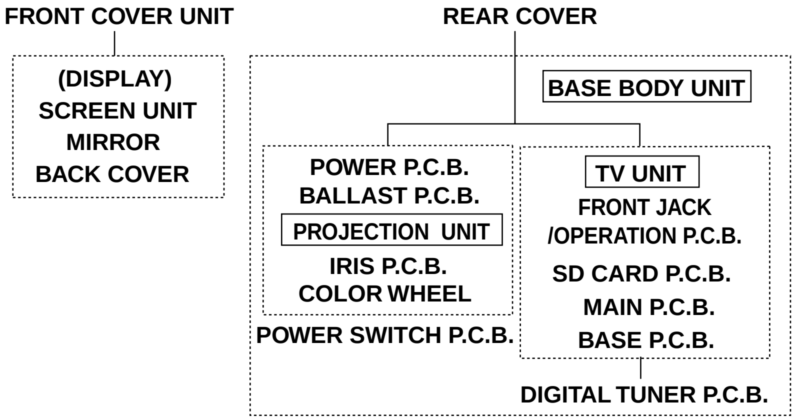
REMOVAL OF THE FRONT JACK/OPERATION P.C.B., THE SD CARD P.C.B., THE MAIN P.C.B., AND THE BASE P.C.B. FROM THE TV UNIT

REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY

REMOVAL OF THE MIRROR FROM THE BACK COVER

DISASSEMBLY FLOWCHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C.Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.


FRONT COVER UNIT
(DISPLAY)
SCREEN UNIT
MIRROR
BACK COVER
REAR COVER
BASE BODY UNIT
POWER P.C.B.
BALLAST P.C.B.
PROJECTION UNIT
IRIS P.C.B.
COLOR WHEEL
POWER SWITCH P.C.B.
TV UNIT
FRONT JACK
/OPERATION P.C.B.
SD CARD P.C.B.
MAIN P.C.B.
BASE P.C.B.
DIGITAL TUNER P.C.B.

Note :

a. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.

b. When reinstalling, ensure that the connectors are connected firmly and electrical components have not been damaged.

c. Do not supply power to the unit during disassembly and reassembly.

REMOVAL OF THE PROJECTION UNIT FROM THE CABINET

1. Remove the Rear Cover Unit by removing the 13 Screws (401) then pinching the 3 latch tabs.

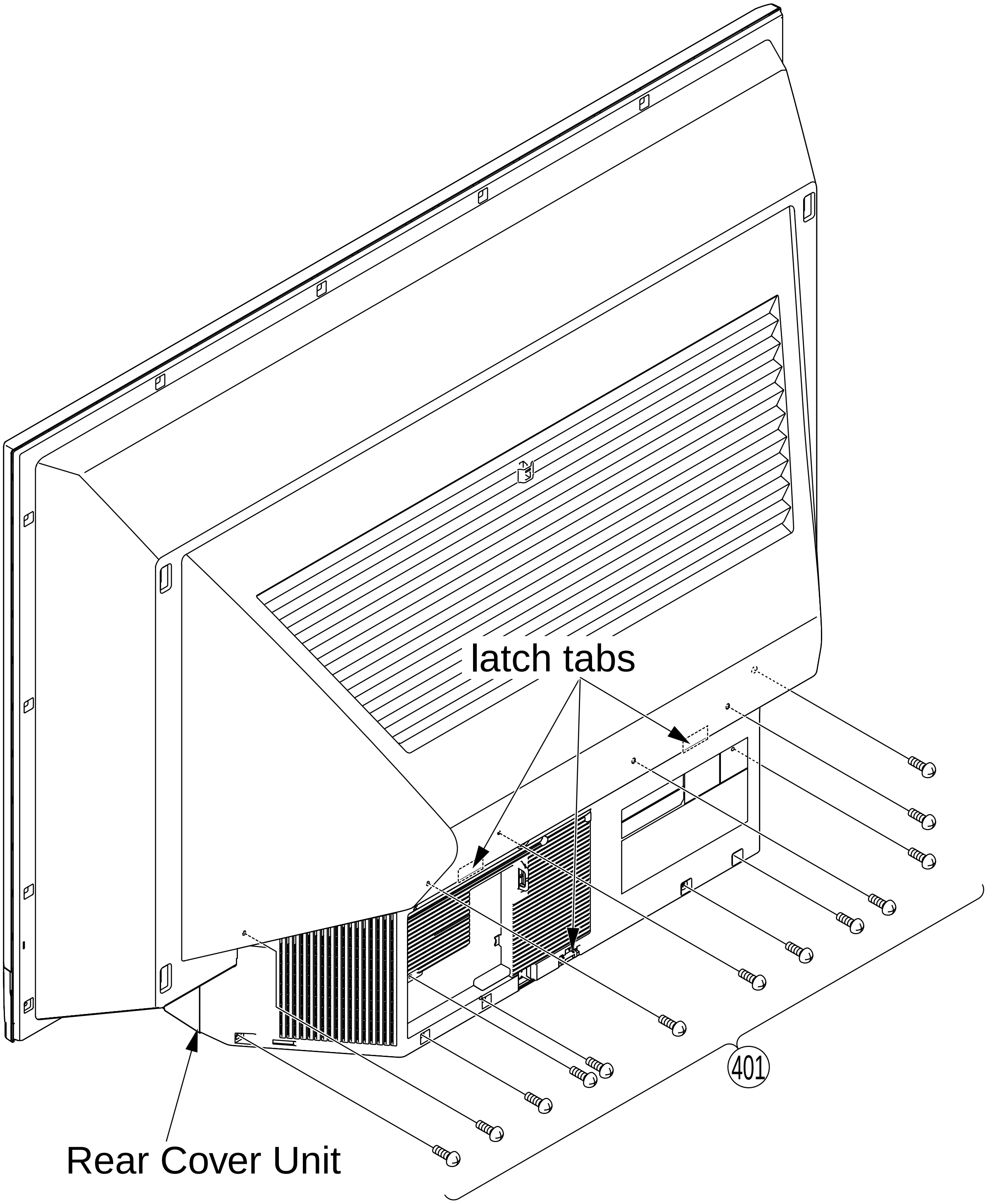
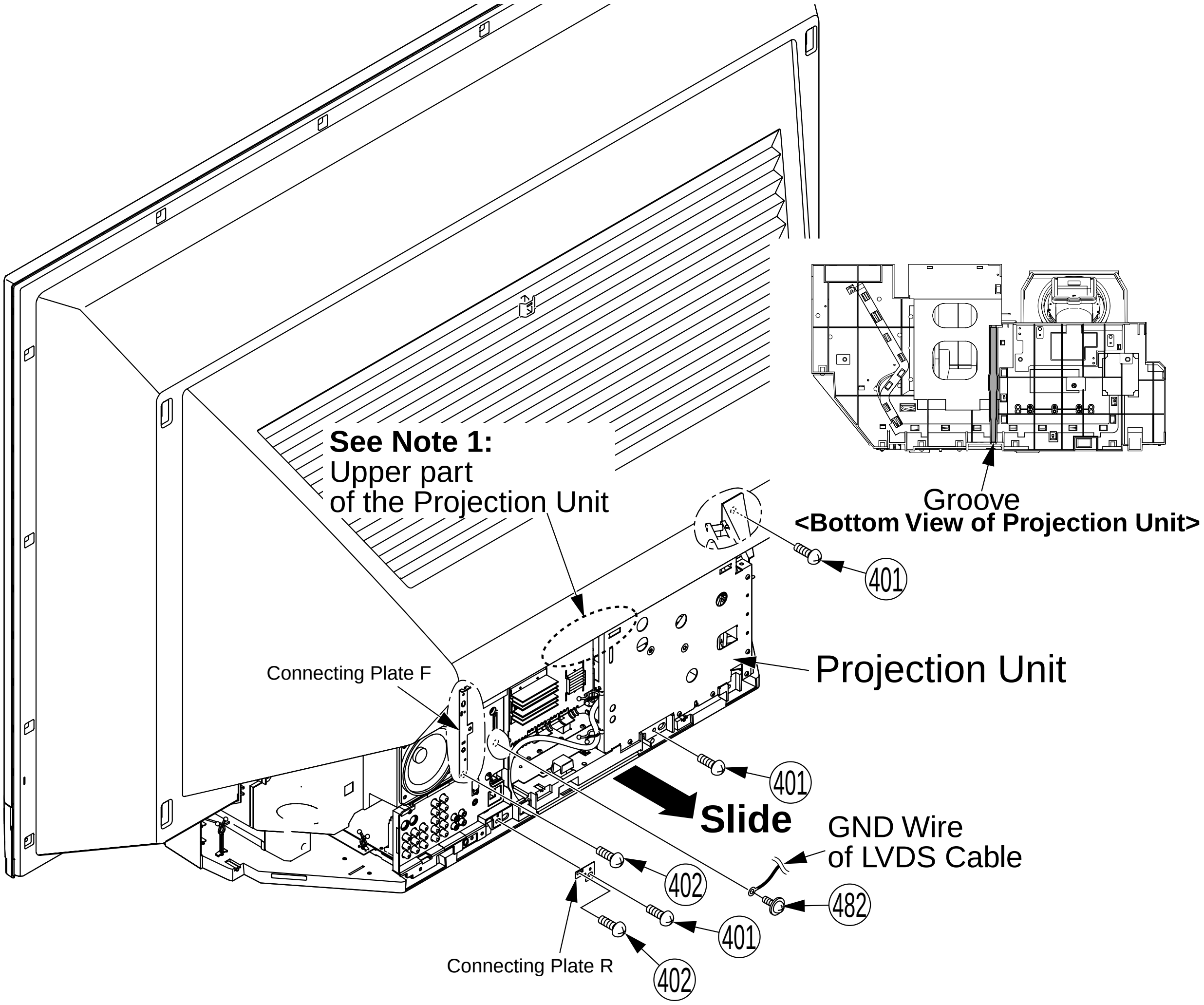

latch tabs
401
Rear Cover Unit

Fig. D1-1

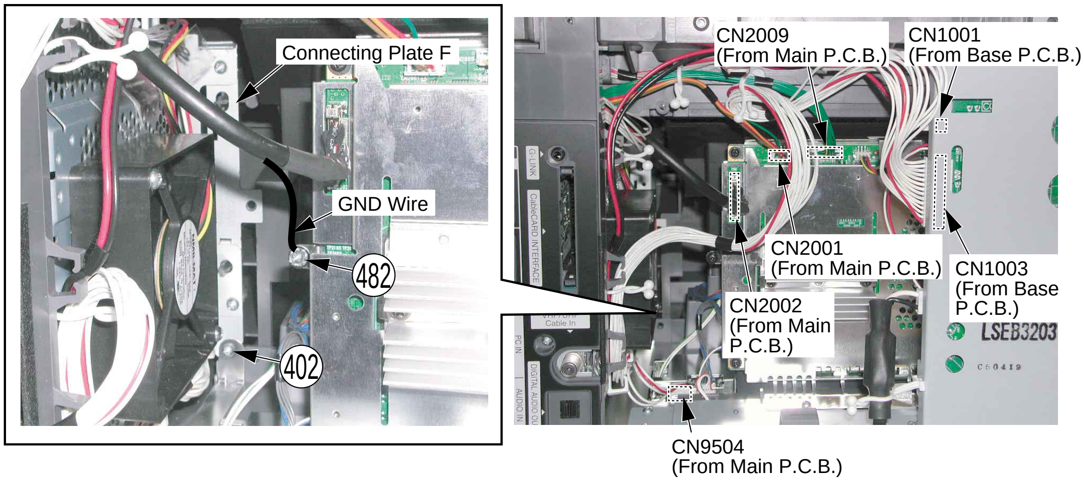
2. Remove the Connecting Plate R by removing the 2 Screws (401, 402).
3. 1) To disconnect Connector CN2002 (LVDS Cable), remove the Screw (482) on GND Wire.
   2) Disconnect Connectors CN1001, CN1003, CN2001, CN2002 (LVDS Cable), CN2009, CN9504, and release from the clampers.
   3) Remove the Screw (402) on the Connecting Plate F.
   4) Remove the 2 Screws (401) on the Projection Unit, and slide the Projection Unit along the groove.

   Note 1: When removing or installing the Projection Unit, be careful that the upper part (Color Wheel F.P.C.) does not get caught on the cabinet.

   Note 2: Hold the Projection Unit only by designated points. Refer to "BEFORE REMOVING THE PROJECTION UNIT FROM THE UNIT AT THE USER'S LOCATION" in Service Mode.



See Note 1:
Upper part
of the Projection Unit
Groove
<Bottom View of Projection Unit>
401
Projection Unit
Connecting Plate F
401
Slide
GND Wire
of LVDS Cable
402
482
401
Connecting Plate R
402



Connecting Plate F
GND Wire
482
402
CN2009
(From Main P.C.B.)
CN1001
(From Base P.C.B.)
CN2001
(From Main P.C.B.)
CN1003
(From Base
P.C.B.)
CN2002
(From Main
P.C.B.)
CN9504
(From Main P.C.B.)

Fig. D1-2

REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER P.C.B. FROM THE CABINET

1. Remove the Rear Cover Unit and the Connecting Plate R. Refer to Steps 1 ~ 2 in "REMOVAL OF THE PROJECTION UNIT FROM THE CABINET."
2. 1) Remove the 2 Screws (402) on the Connecting Plate F.
   2) Remove the Screw (401) on the left side of the TV Unit.
   3) Disconnect Speaker Connectors and Woofer Connector and release from the clampers.
   4) To disconnect Connector CN2002 (LVDS Cable), remove the Screw (482) on GND Wire.
   5) Disconnect Connectors CN1001, CN1003, CN2001, CN2002 (LVDS Cable), CN2009 and CN9504, and release from the clampers.

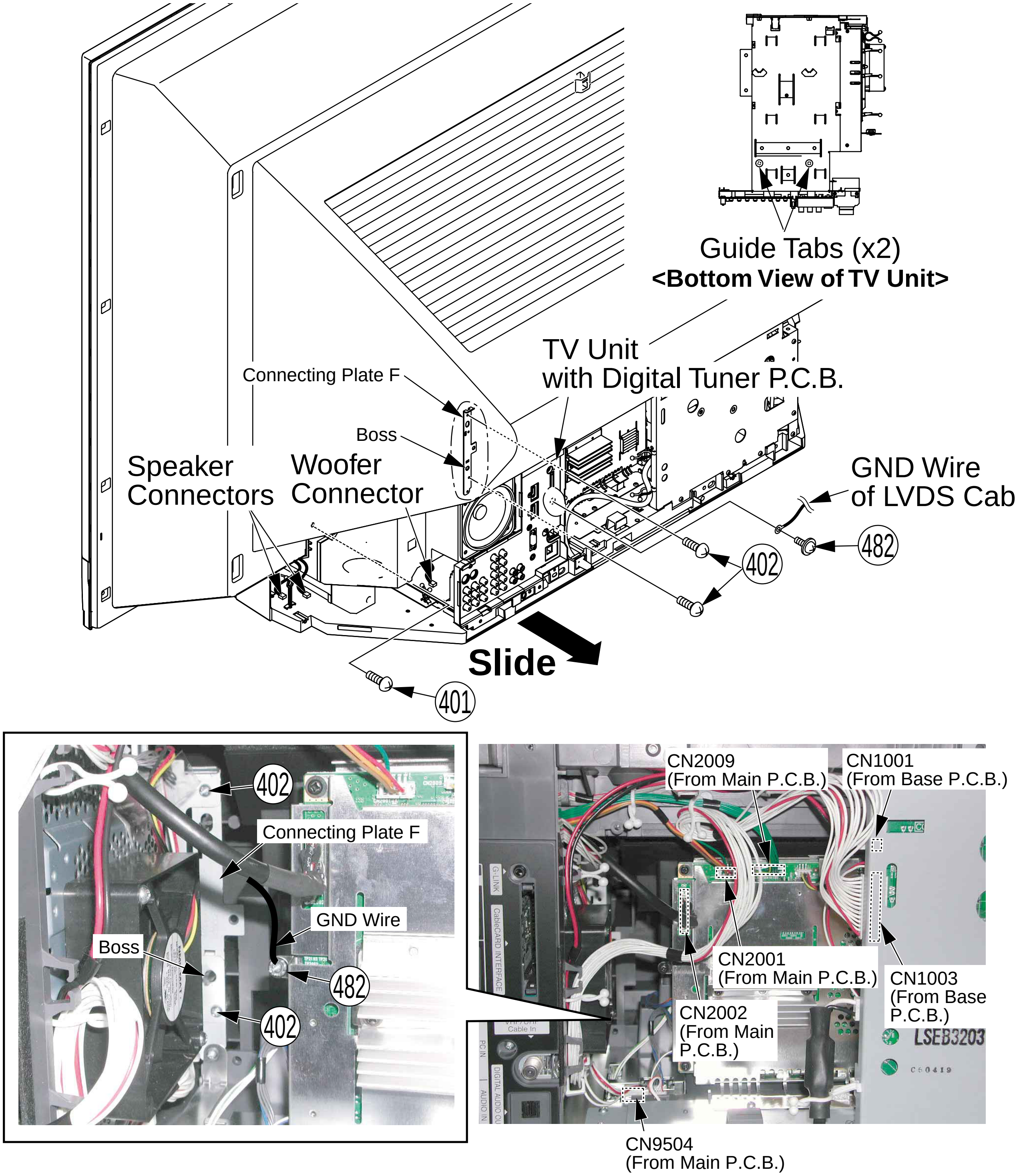

Guide Tabs (x2)
<Bottom View of TV Unit>
TV Unit
with Digital Tuner P.C.B.
Connecting Plate F
Boss
Speaker
Connectors
Woofer
Connector
GND Wire
of LVDS Cable
482
402
Slide
401
402
Connecting Plate F
GND Wire
Boss
482
402
CN2009
(From Main P.C.B.)
CN1001
(From Base P.C.B.)
CN2001
(From Main P.C.B.)
CN1003
(From Base
P.C.B.)
CN2002
(From Main
P.C.B.)
CN9504
(From Main P.C.B.)

Fig. D2-1

6) Slide the TV Unit with Digital Tuner P.C.B. along the Guide Tabs slightly, and disconnect Connector CN6001.
7) Remove the TV Unit with Digital Tuner P.C.B.

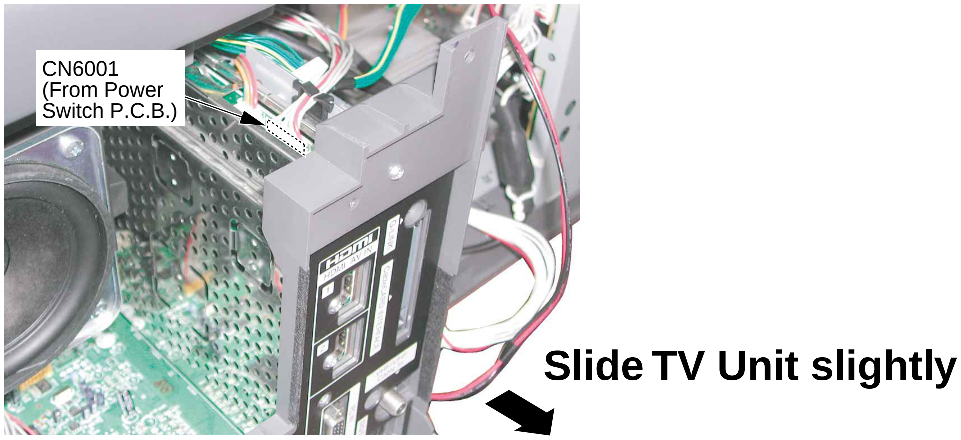

CN6001
(From Power
Switch P.C.B.)
Slide TV Unit slightly

Fig. D2-2

3. 1) Disconnect Connectors DT10 and CN6010.
   2) Remove the Digital Tuner P.C.B. by removing the 6 Screws (402, 480). (BtoB Connector DT12 is disconnected.)
   Note:
   If the Digital Tuner P.C.B. is difficult to remove, first remove the Rear Jack Holder by removing the 7 Screws (402, 452) and releasing the Locking Tab.
4. Remove the Fan 1 by removing the 2 Screws (492).

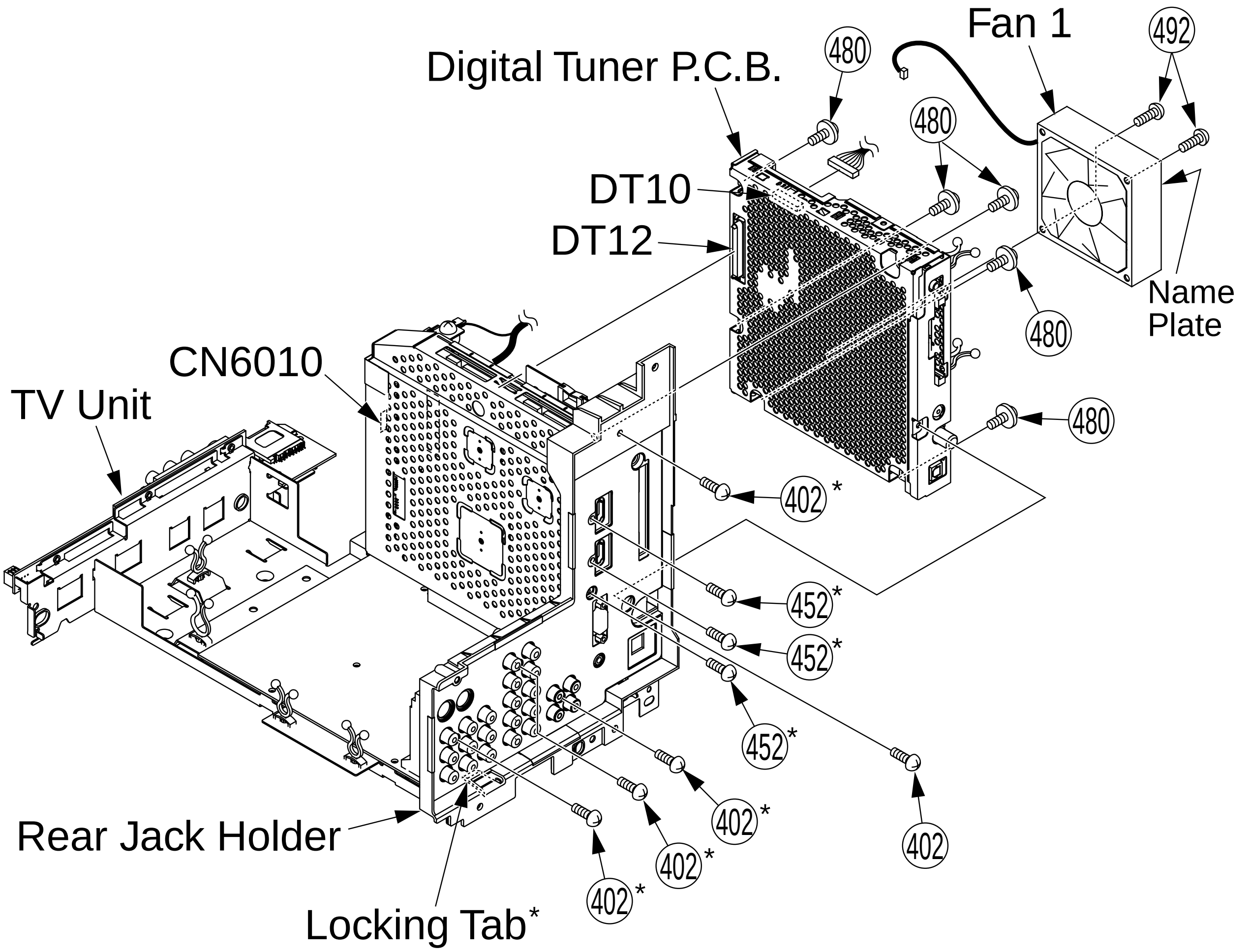

Fan 1
492
Digital Tuner P.C.B.
480
480
DT10
DT12
480
Name
Plate
480
CN6010
TV Unit
402*
452*
452*
452*
402*
402*
402
402*
Rear Jack Holder
Locking Tab*

Fig. D2-3

Reassembly Note for Fan 1:
Install the Fan 1 so that the name plate (manufacture’s name etc.) faces outwards.

REMOVAL OF THE BASE BODY UNIT

1. Remove the Rear Cover Unit. Refer to Step 1 in "REMOVAL OF THE PROJECTION UNIT FROM THE CABINET."
2. 1) Remove the Front Cover Unit from the latches.
   2) Remove the 5 Screws (454) from front side, and remove the Display.

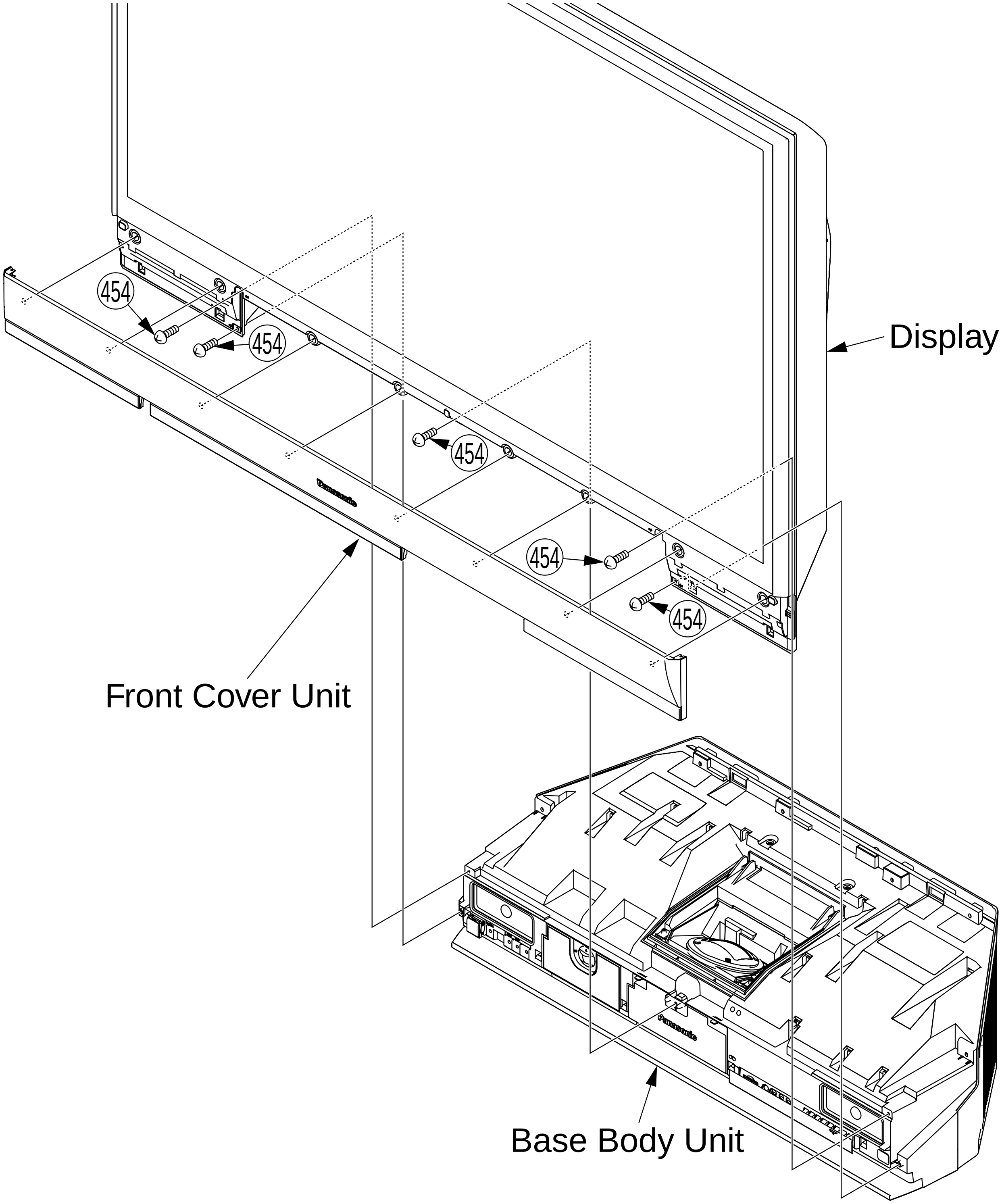
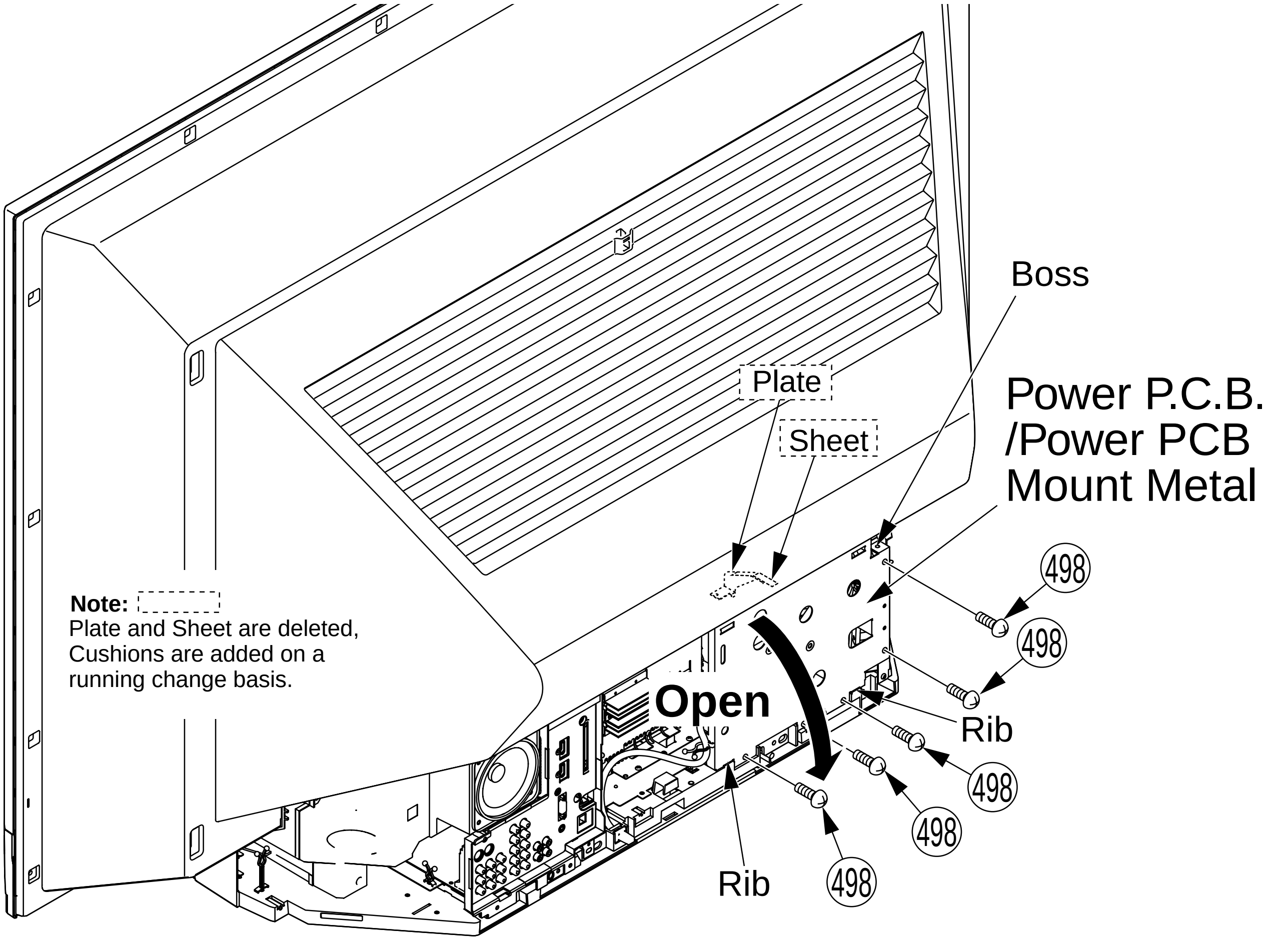

454
454
454
454
454
Display
Front Cover Unit
Base Body Unit

Fig. D3

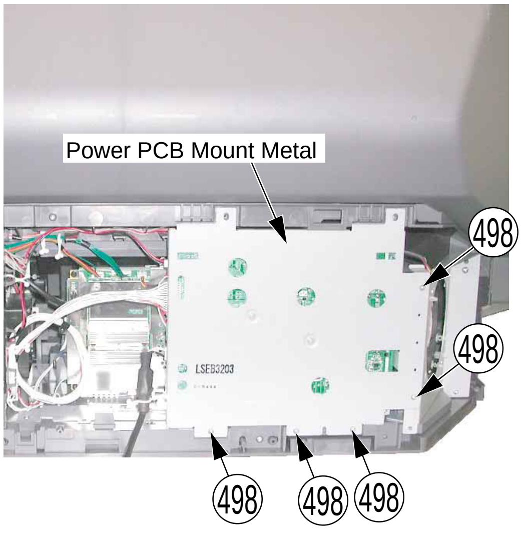
Replacement Note:
After replacing the Base Body Unit, be sure to perform "ADJUSTMENT of Projection Unit." Refer to "WHEN INSTALLING THE BASE BODY UNIT INTO THE UNIT AT THE USER’S LOCATION" in Adjustment Procedures 1.

REMOVAL OF THE POWER P.C.B. FROM THE CABINET

1. Remove the Rear Cover Unit. Refer to Step 1 in "REMOVAL OF THE PROJECTION UNIT FROM THE CABINET."
2. 1) Open the Power P.C.B/Power PCB Mount Metal by removing the 5 Screws (498).
   (**Early models:** Peel off the Sheet on the Plate to open the Power P.C.B.)
   2) Disconnect Connectors CN804, CN1001, CN1002, CN1003 and CN1301, and release from the clampers.


Boss
Plate
Sheet
Power P.C.B.
/Power PCB
Mount Metal
498
498
Open
Rib
498
498
Rib
498

Note: ☐
Plate and Sheet are deleted,
Cushions are added on a
running change basis.


Power PCB Mount Metal
498
498
498
498
498

<With Power P.C.B/Power PCB Mount Metal opened>

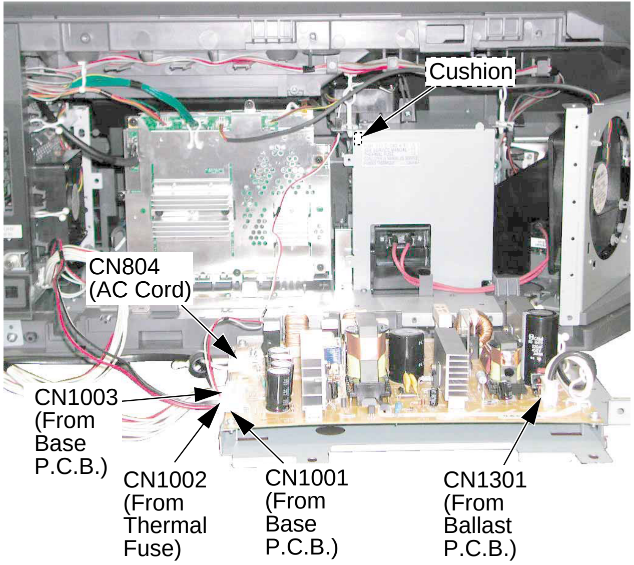

Cushion
CN804
(AC Cord)
CN1003
(From
Base
P.C.B.)
CN1002
(From
Thermal
Fuse)
CN1001
(From
Base
P.C.B.)
CN1301
(From
Ballast
P.C.B.)

Fig. D4-1

3) Remove the Power P.C.B. by removing the 4 Screws (479) and release from the 2 spacers.

Note:
Plate and Sheet are deleted,
Cushions are added on a
running change basis.

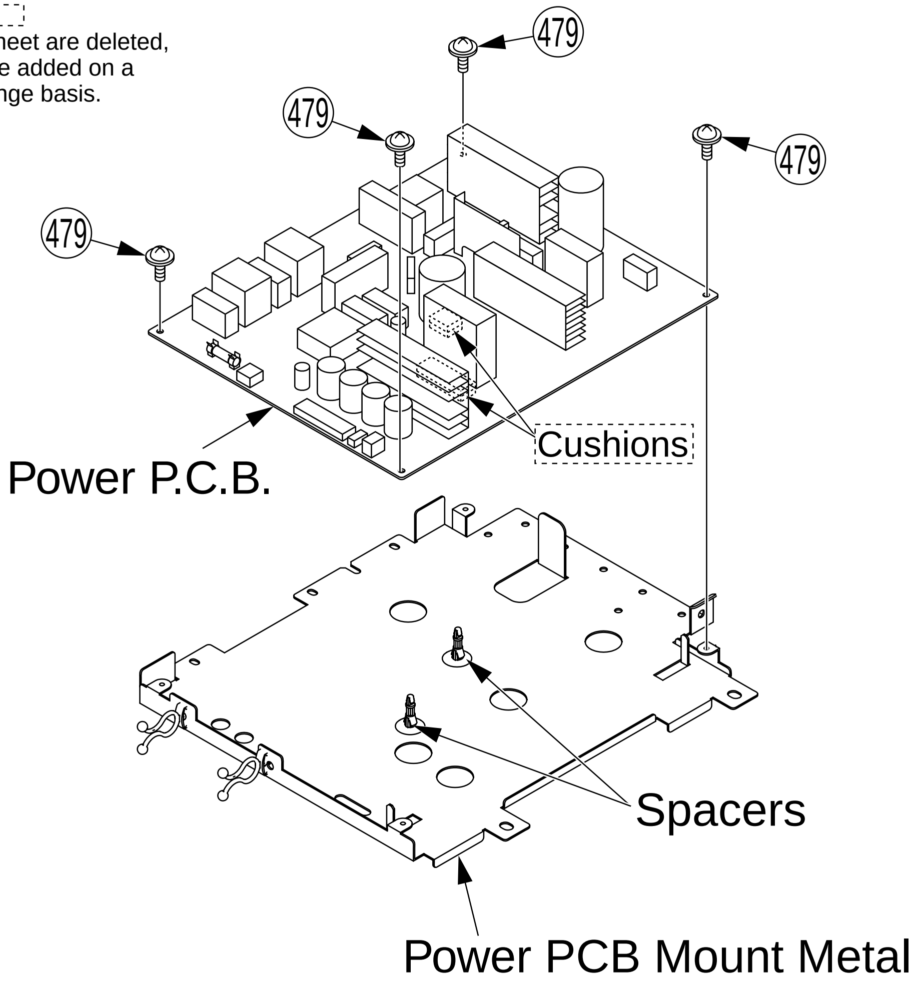
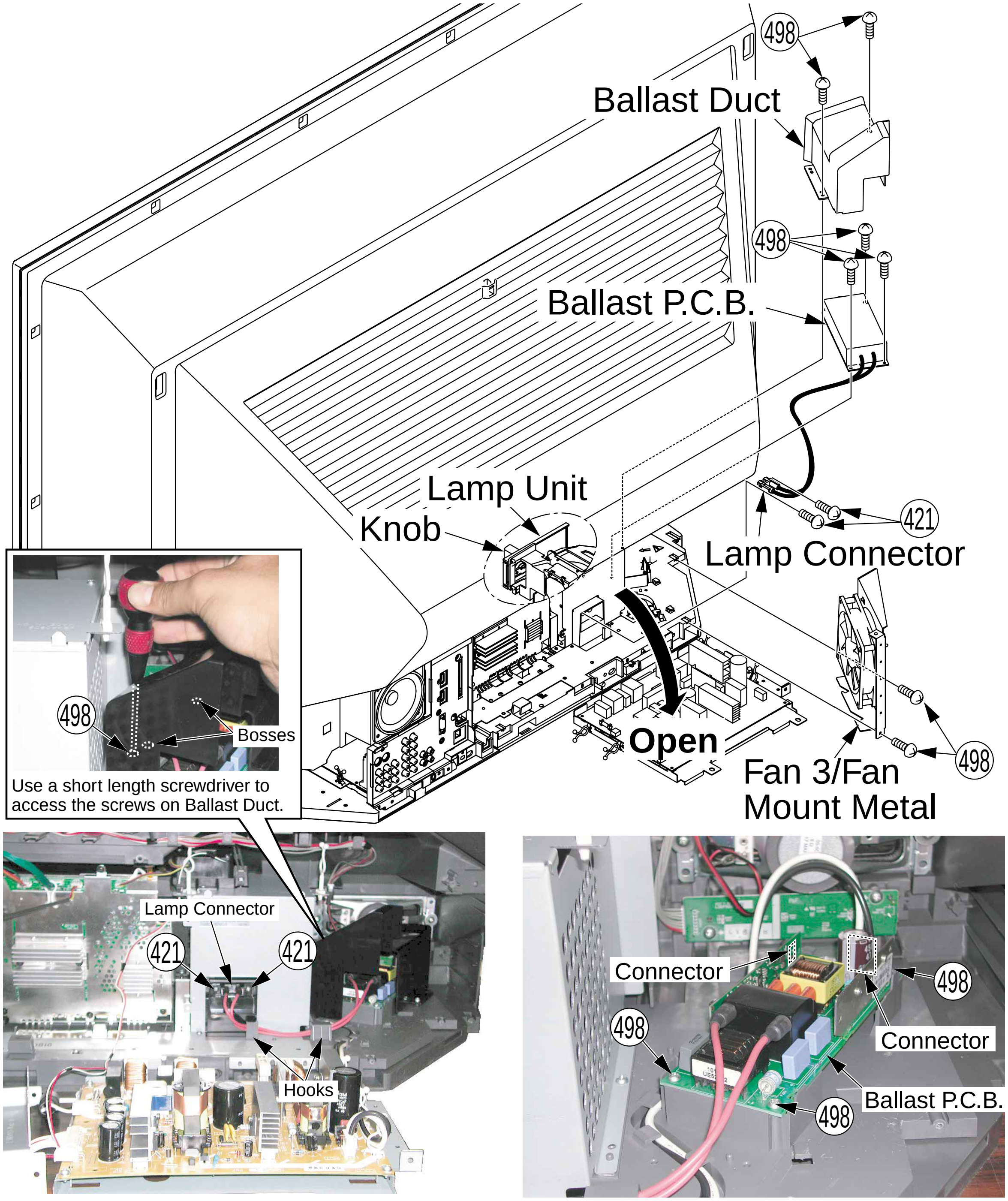

479
479
479
479
Power P.C.B.
Cushions
Spacers
Power PCB Mount Metal

Fig. D4-2

REMOVAL OF THE BALLAST P.C.B. FROM THE CABINET

1. Open the Power P.C.B./Power PCB Mount Metal. Refer to Step 1 in "REMOVAL OF THE POWER P.C.B. FROM THE CABINET."
2. Move Fan 3/Fan Mount Metal aside by removing the 2 Screws (498).
3. Remove the Lamp Unit by turning the knob from the front.
4. 1) Remove the Ballast Duct by removing the 2 Screws (498).
   2) Disconnect the Lamp Connector by removing the 2 Screws (421) and release from the hooks.
   3) Disconnect 2 Connectors on the Ballast P.C.B.
   4) Remove the Ballast P.C.B. by removing the 3 Screws (498).


498
Ballast Duct
498
Ballast P.C.B.
Lamp Unit
Knob
421
Lamp Connector
Open
Fan 3/Fan Mount Metal
498
498
Bosses
Lamp Connector
421
421
Hooks
Connector
498
498
Connector
Ballast P.C.B.
498

Use a short length screwdriver to access the screws on Ballast Duct.

<With Power P.C.B/Power PCB Mount Metal opened>

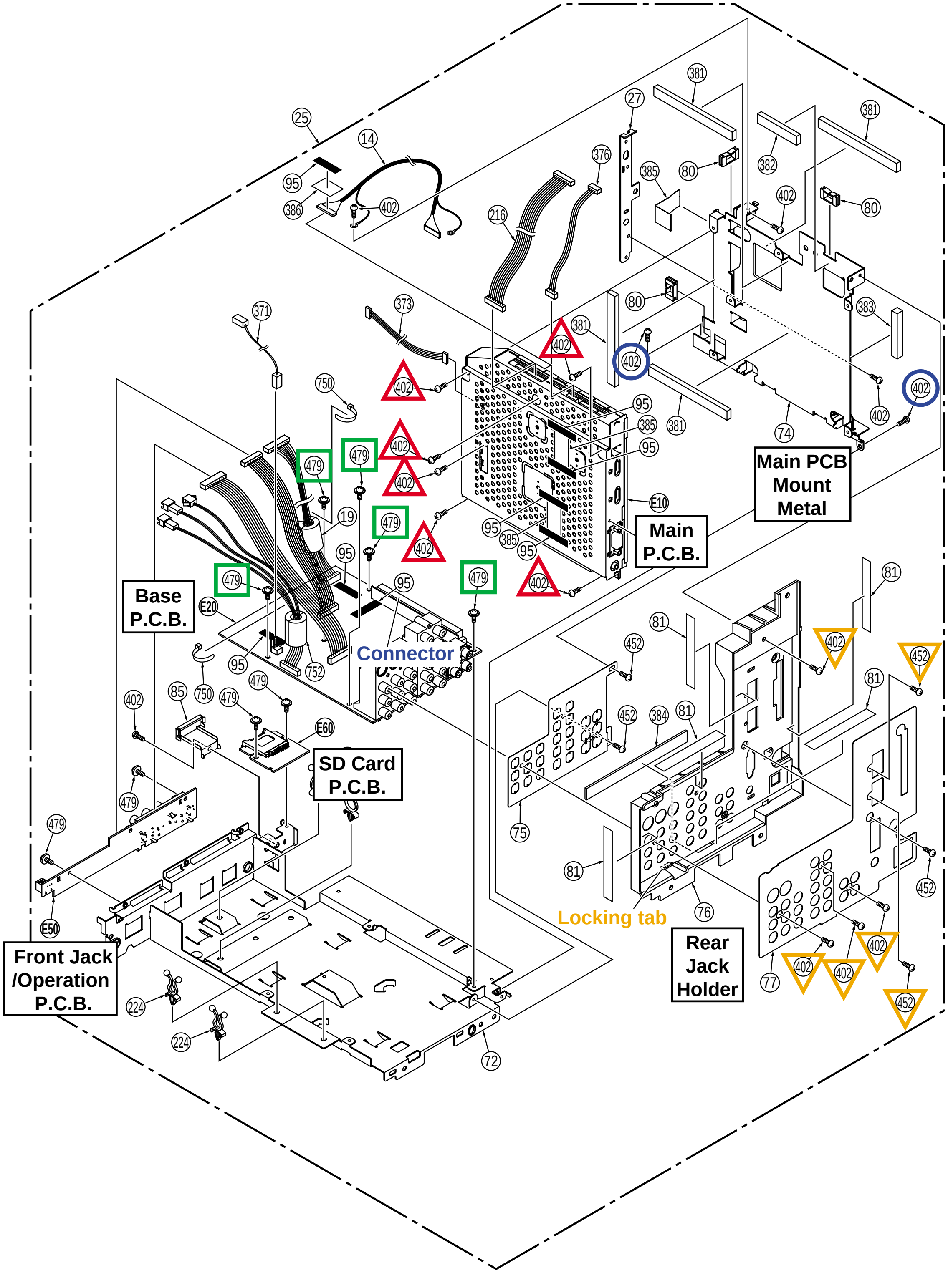
<With Ballast Duct removed>

Fig. D5

Altanative method for removing Ballast P.C.B.:
Slide the Projection Unit from the cabinet, then remove the Ballast P.C.B. from the Projection Unit.

REMOVAL OF THE FRONT JACK/OPERATION P.C.B., THE SD CARD P.C.B., THE MAIN P.C.B., AND THE BASE P.C.B. FROM THE TV UNIT

1. Remove the TV Unit. Refer to Steps 1 ~ 4 in "REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER P.C.B. FROM THE CABINET."
2. Remove the Rear Jack Holder by removing the screws ("▽" mark) and releasing Locking tab.
3. Remove the Main P.C.B. and the Main PCB Mount Metal together by removing the screws ("○" mark) and the connector. Then remove the Main P.C.B. by removing the screws ("△" mark).
4. Remove the Base P.C.B. by removing the screws ("□" mark).



Main PCB Mount Metal
Main P.C.B.
Base P.C.B.
Connector
SD Card P.C.B.
Front Jack /Operation P.C.B.
Locking tab
Rear Jack Holder
E10
E20
E50
E60
381
27
381
25
14
376
382
385
80
95
402
80
386
402
216
371
373
80
383
381
402
402
750
402
95
385
381
74
402
402
479
479
95
19
479
402
479
95
E10
402
95
385
95
81
95
479
402
452
402
452
81
95
750
479
752
402
85
479
452
384
81
479
479
75
81
76
452
77
402
402
402
452
224
224
72

REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY

1. Remove the Display. Refer to Steps 1 ~ 2 in "REMOVAL OF THE BASE BODY UNIT."
2. Remove the Screen Unit by removing the 16 Screws (401).

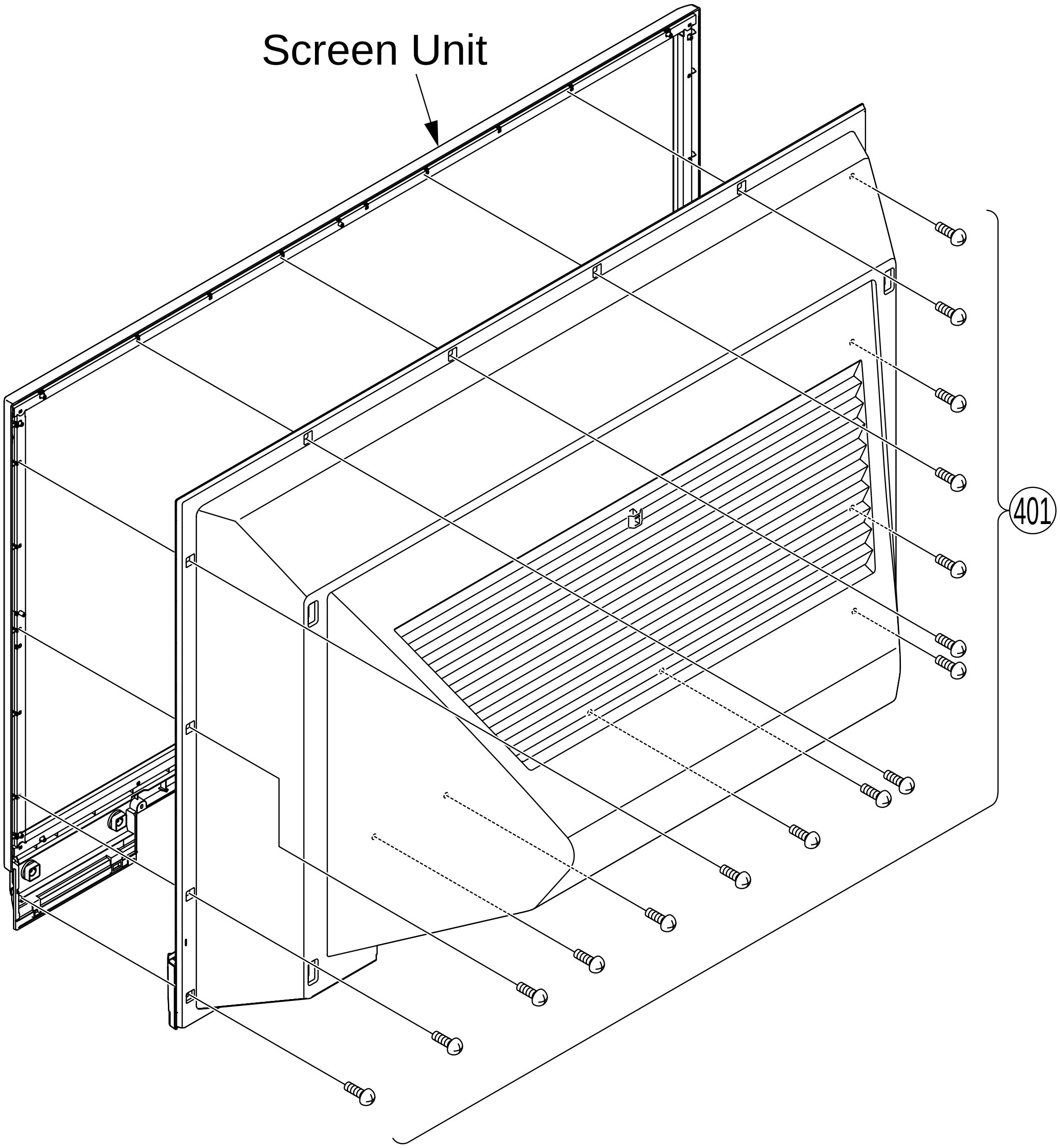


Fig. D7-1

3. Remove the 2 Screen Angle H Units and the 2 Screen Angle V Units by removing the 14 Screws (465), and remove the Fresnel Lens and the Lenticular Screen.

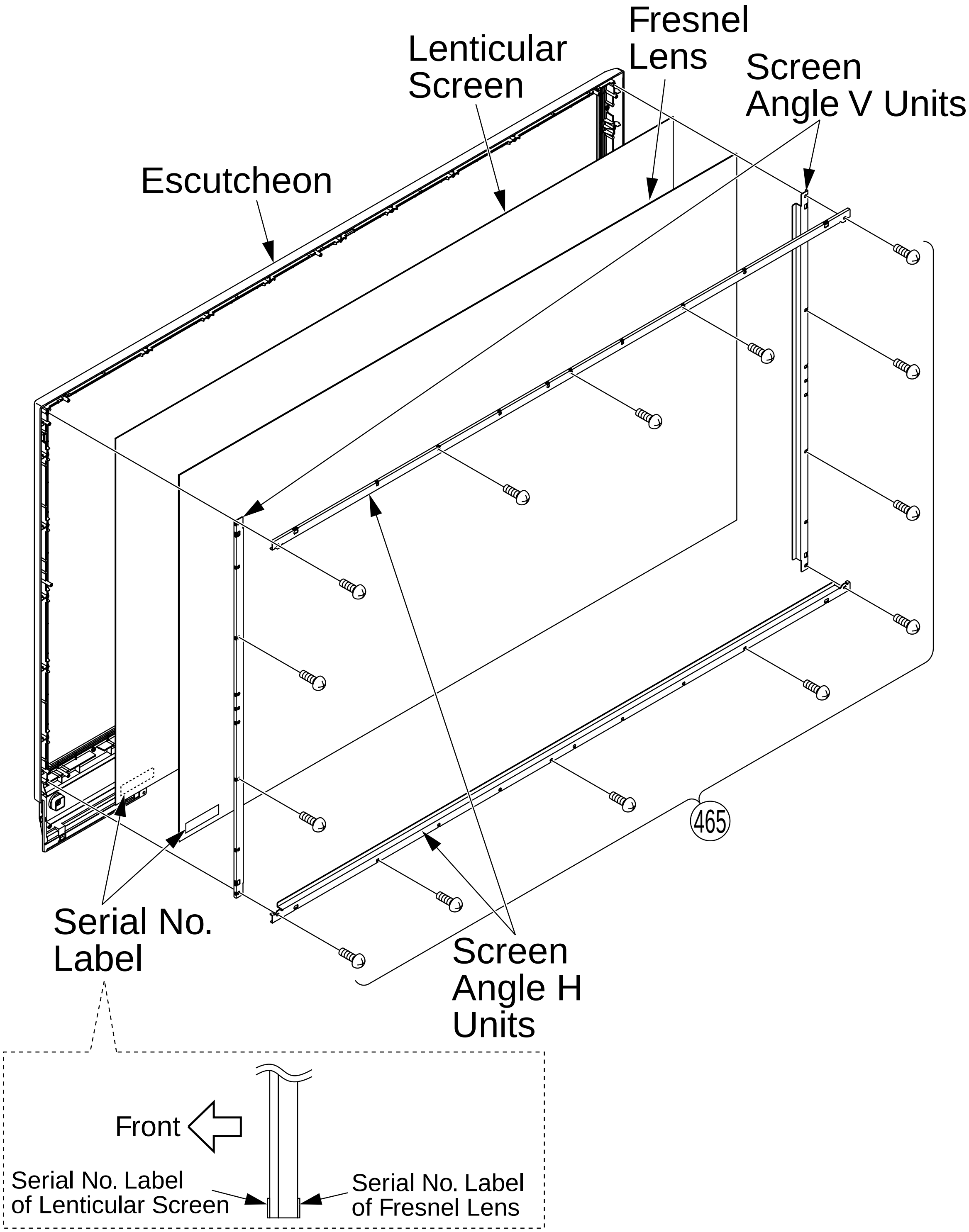

Fresnel Lens
Lenticular Screen
Screen Angle V Units
Escutcheon
465
Serial No. Label
Screen Angle H Units
Front
Serial No. Label of Lenticular Screen
Serial No. Label of Fresnel Lens

Fig. D7-2

Replacement Note for all Screen Units:
When replacing the Fresnel Lens and the Lenticular Screen, it is imperative that dust, etc., does not adhere between the Fresnel Lens and the Lenticular Screen. Due to this risk, it is strongly recommended to replace the Screen Unit as a unit.

REMOVAL OF THE MIRROR FROM THE BACK COVER

1. Remove the Screen Unit. Refer to steps 1 ~ 2 in "REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY."
2. 1) Remove the 3 Mirror Holder H Units and the 2 Mirror Holder V Units by removing the 10 Screws (401).
   2) Remove the Mirror from the top by releasing the Back Cover slots.
   Note: The Mirror is fragile. Handle with extreme care.

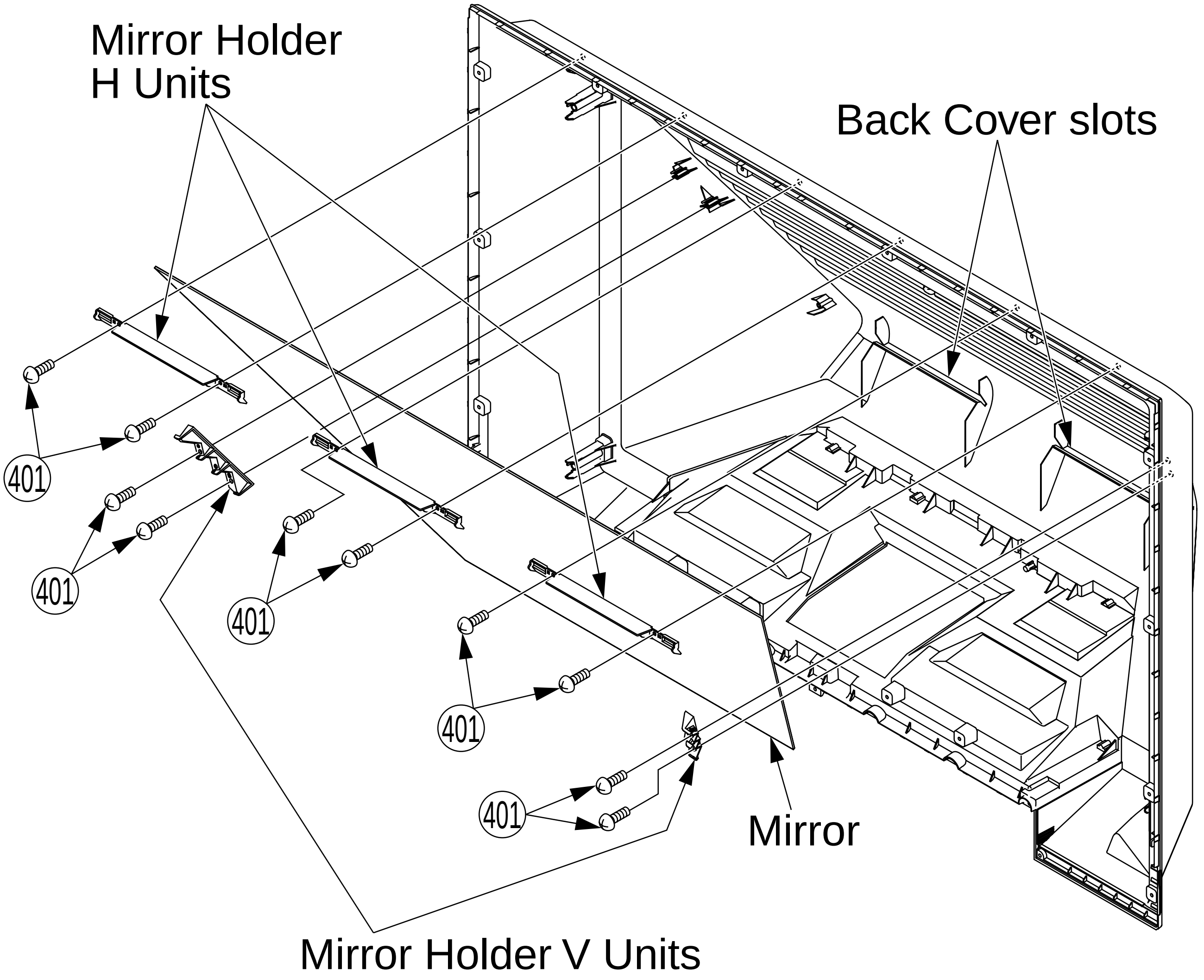

Mirror Holder
H Units
Back Cover slots
401
401
401
401
401
Mirror
Mirror Holder V Units

Fig. D8

Reassembly Notes for Mirror:
Install the Mirror using the following procedures:

1) Hold the edge of the Mirror, and insert the Mirror from the top into the Back Cover slots carefully.
   When handling the Mirror, do not touch the Mirror surface.
2) Install the 3 Mirror Holder H Units and the 2 Mirror Holder V Units on the Mirror and tighten the 10 Screws (401).

8.2. Projection Section

Projection Section

DISASSEMBLY METHOD FOR PROJECTION UNIT

When reassembling, perform the step(s) in the reverse order. Bend, route and dress the wires as they were originally.

Note :

a. Place a cloth or some other soft material under the P.C. Boards and units to prevent damage.
b. When reinstalling, ensure that the connectors are connected firmly and electrical components have not been damaged.
c. Do not supply power to the unit during disassembly and reassembly.

REMOVAL OF THE POWER P.C.B. AND THE FAN 3

1. Open the Power P.C.B/Power PCB Mount Metal by removing the 5 Screws (498).
   (**Early models:** Peel off the Sheet on the Plate to open the Power P.C.B.)
2. 1) Disconnect Connectors CN804, CN1002, CN1301 and release from the clampers.
   2) Remove the Power P.C.B. by removing the 4 Screws (479) and release from the 2 Spacers and the AC Plug slot.
2. 1) Disconnect Connector CN2007 on the DMD Drive P.C.B.
   2) Remove Fan 3/Fan Mount Metal by removing the 2 Screws (498).
   3) Remove the Fan 3 from the Fan Mount Metal by removing the 2 Screws (492).

Note: Plate and Sheet are deleted, Cushions are added on a running change basis.

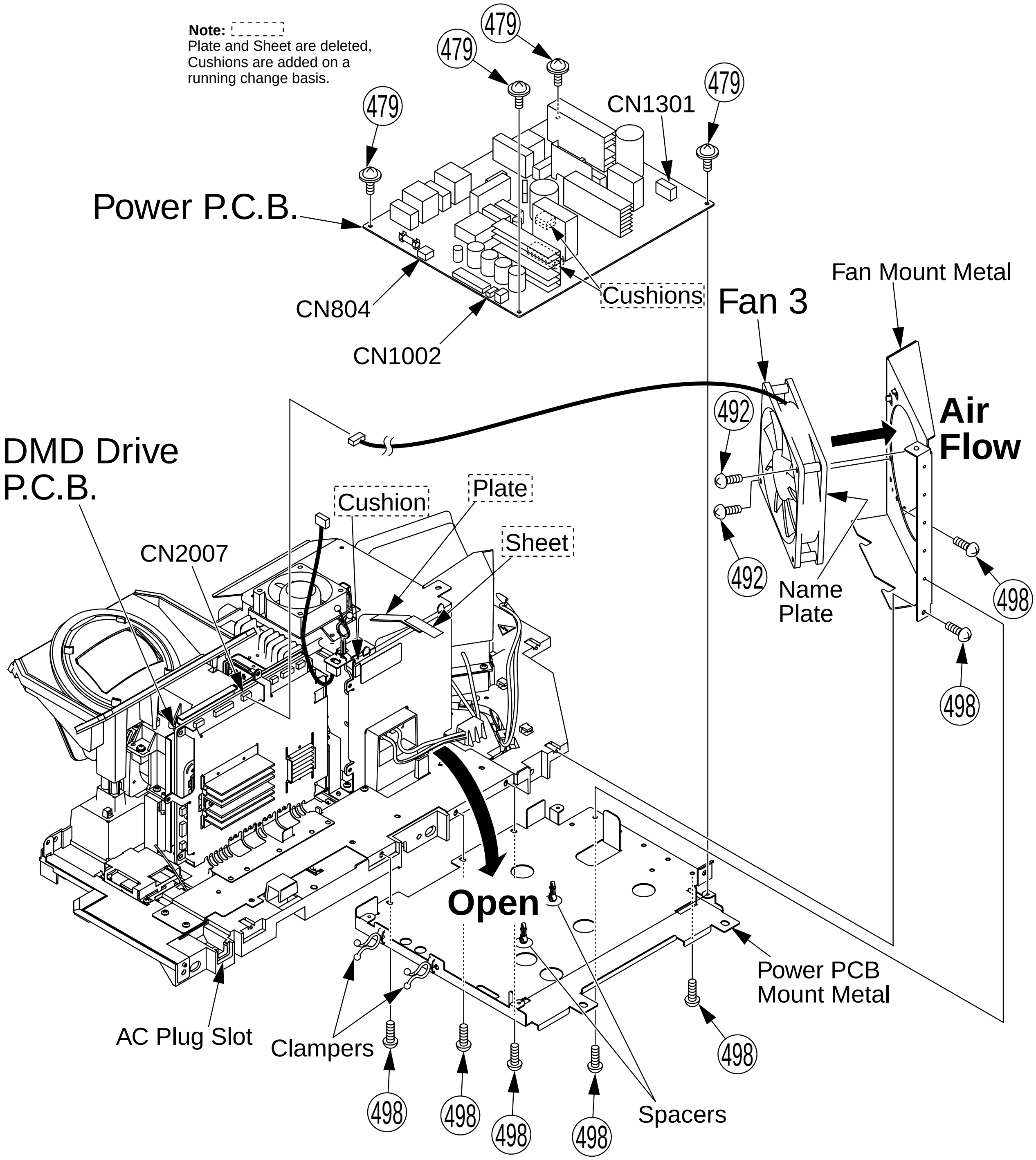

479
479
479
479
CN1301
Power P.C.B.
CN804
CN1002
Cushions
Fan 3
Fan Mount Metal
492
492
Air Flow
Name Plate
498
498
DMD Drive P.C.B.
Cushion
Plate
Sheet
CN2007
Open
Power PCB Mount Metal
AC Plug Slot
Clampers
498
498
498
498
498
Spacers

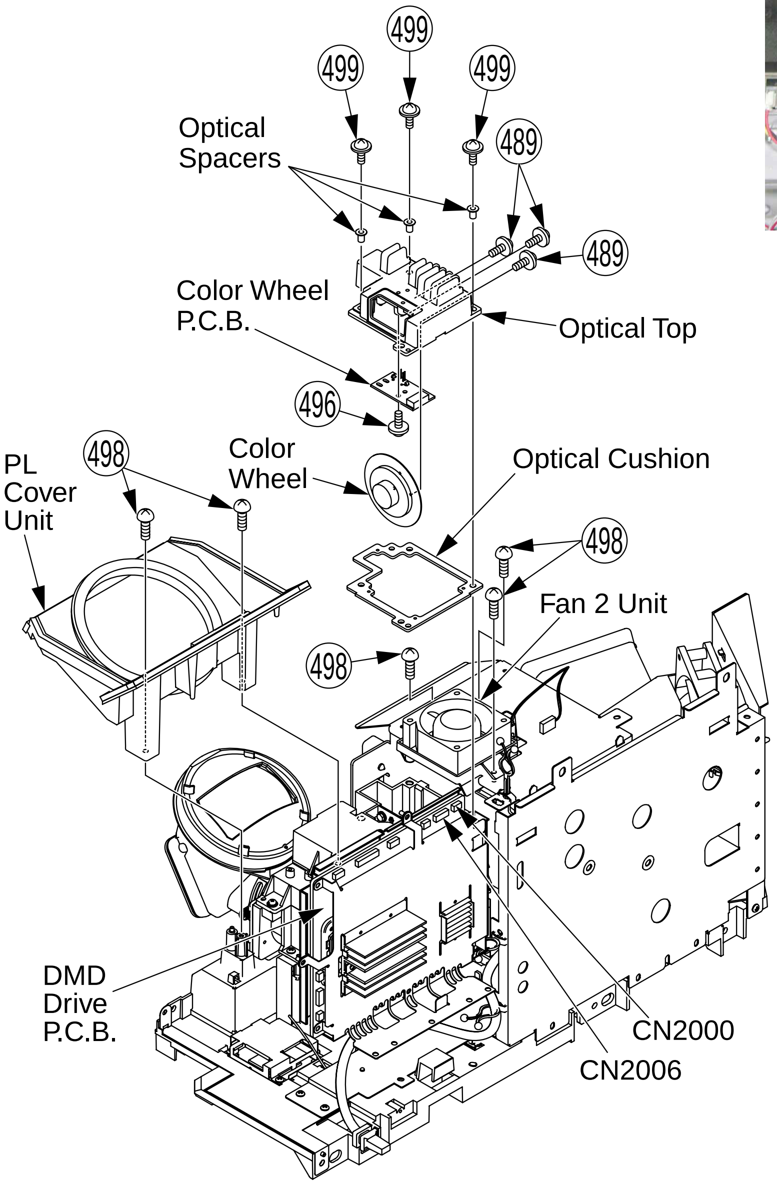
Fig. P1

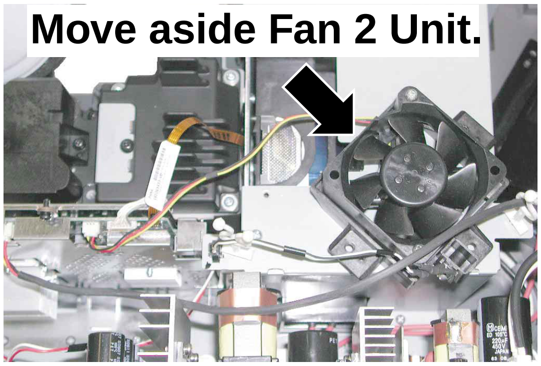
Reassembly Note for Fan 3:
Install the Fan 3 so that the name plate (manufacture's name etc.) faces outwards.

REMOVAL OF THE COLOR WHEEL AND THE COLOR WHEEL P.C.B.

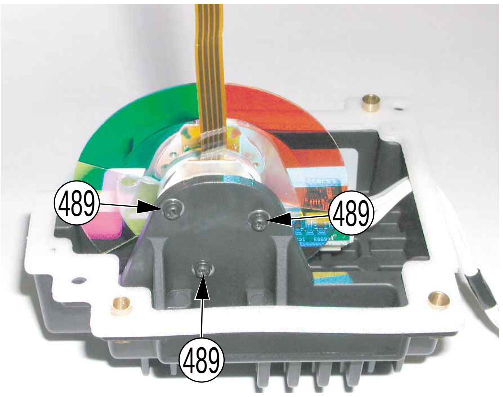
CAUTION:
1. Do not touch either side of the Color Wheel (Filter) surface or the Color Wheel Hub.
   Use extreme caution when handling the Color Wheel to avoid damage, dust, spots (especially fingerprints), etc.
   Clean the Color Wheel if necessary. Refer to "Cleaning Methods" in Maintenance.
2. Be extremely careful not to damage the Color Wheel F.P.C.

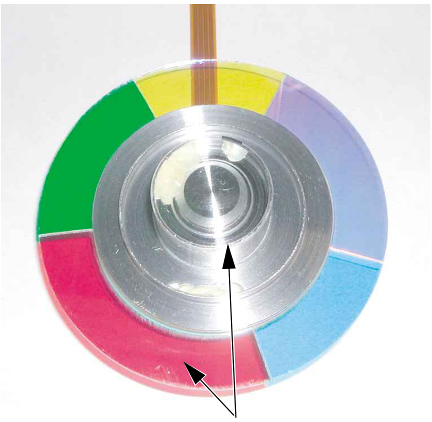
1. Remove the PL Cover Unit by removing the 2 Screws (498).
2. Move aside the Fan 2 Unit by removing the 3 Screws (498).
3. 1) Disconnect Connectors CN2000, CN2006 on the DMD Drive P.C.B.
   2) Remove the 3 Screws (499), and carefully pull off the Optical Top with the Optical Cushion from the 3 Pins.
   3) Remove the Color Wheel by removing the 3 Screws (489).
4. Remove the Color Wheel P.C.B. by removing the Screw (496).


499
499
499
489
Optical Spacers
489
Color Wheel P.C.B.
Optical Top
496
PL Cover Unit
498
Color Wheel
Optical Cushion
498
Fan 2 Unit
498
DMD Drive P.C.B.
CN2000
CN2006


Move aside Fan 2 Unit.

<Top View>



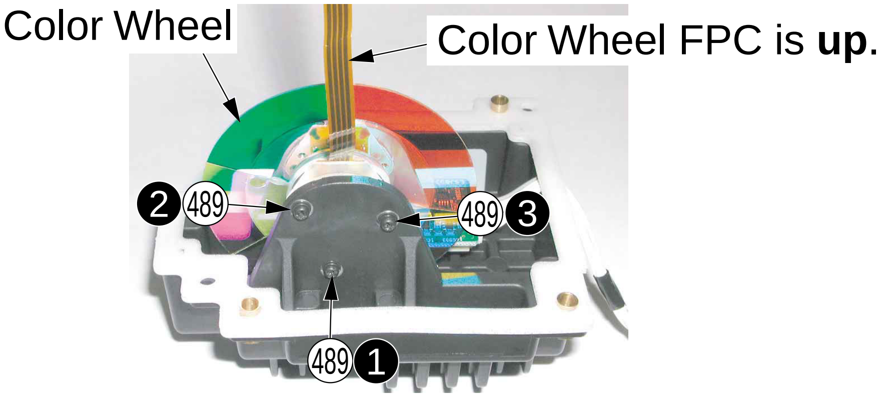


Do not touch the surface and hub of Color Wheel (Filter).

Fig. P3-1

Reassembly Note for the Color Wheel :

1) Set the Color Wheel so that the Color Wheel F.P.C. is up.
   Then, tighten the 3 Screws (489) in the order shown below.


Color Wheel
Color Wheel FPC is **up**.
❷ 489
489 ❸
489 ❶

Tighten the 3 Screws (489) ❶❷❸ in order.

Fig. P3-3

2) Attach the Optical Cushion along the edge of the Optical Top.
   Then, set the 3 Optical Spacers into the screw holes of the Optical Top.
   Confirm that the Connector Cable is between Optical Cushion and slit.

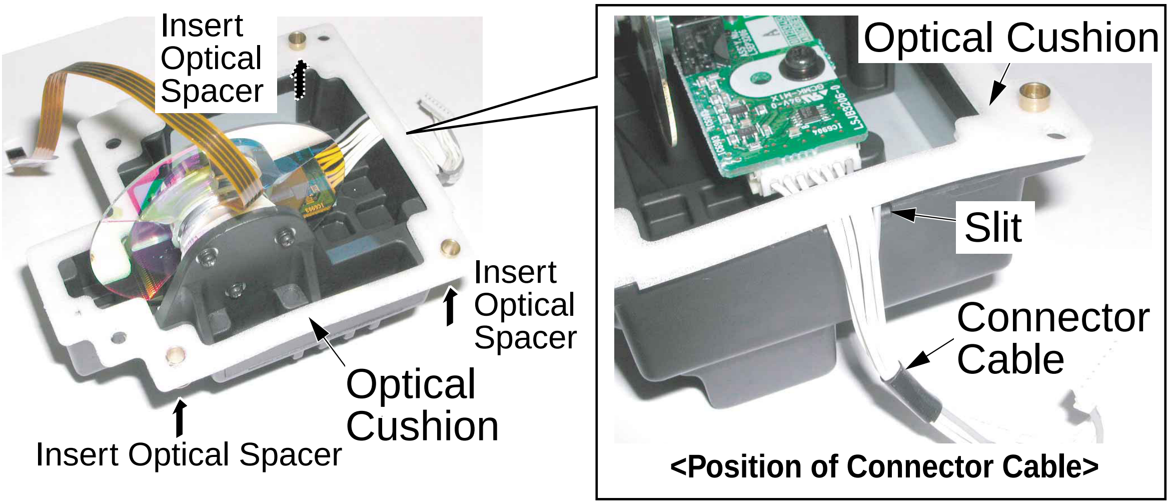

Insert Optical Spacer
Insert Optical Spacer
Optical Cushion
Insert Optical Spacer
Optical Cushion
Slit
Connector Cable
<Position of Connector Cable>

Fig. P3-4

3) Install the Color Wheel of the Optical Top into the plate gap straight without damaging Color Wheel (Filter) or allowing it to touch plate gap.

Install Color Wheel of Optical Top straight

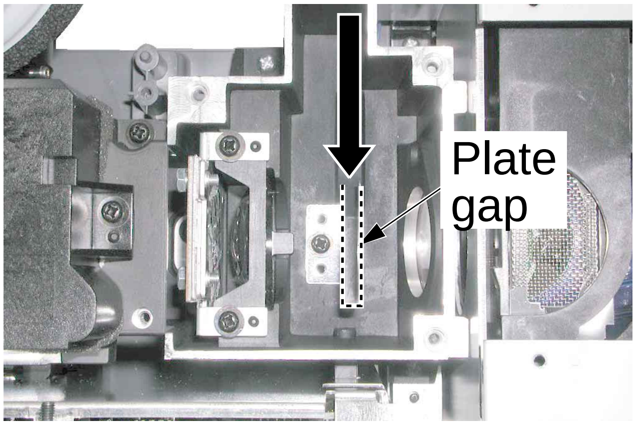


Fig. P3-5

4) Connect Connectors CN2000 and CN2006 on the DMD Drive P.C.B. and tighten the 3 Screws (499).

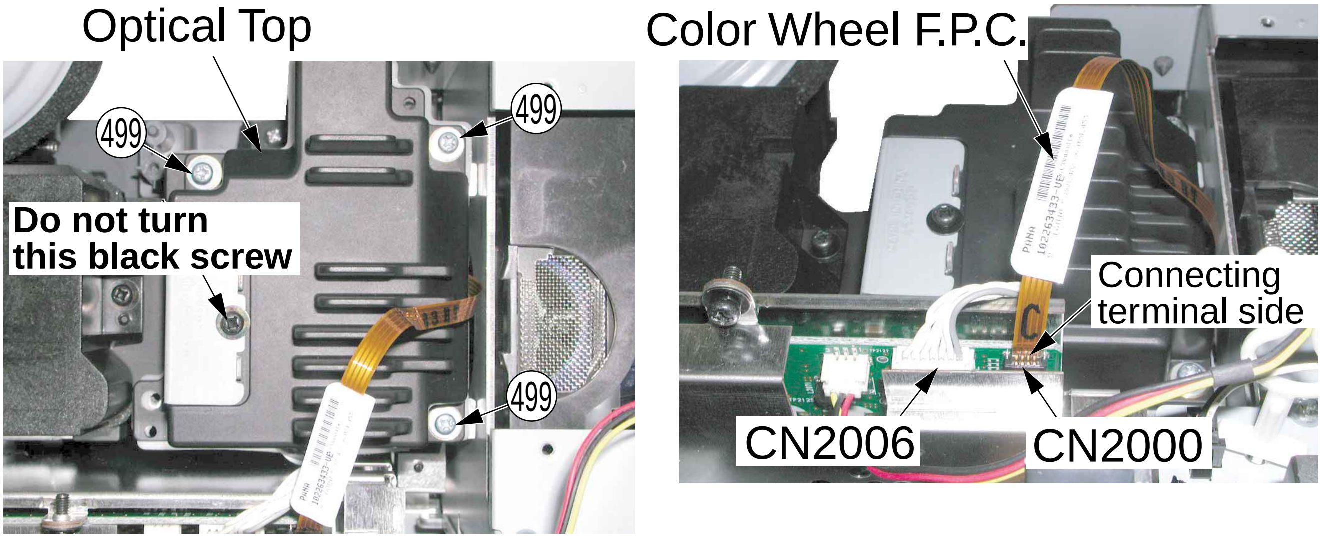

Optical Top
499
499
Do not turn
this black screw
499
Color Wheel F.P.C.
Connecting
terminal side
CN2006
CN2000

Fig. P3-6

5) After installing the Optical Top, be sure to perform the "Color Wheel Index Delay" adjustment.
6) Check the white balance on the screen. If NG, perform the "White Balance" adjustment.

REMOVAL OF THE IRIS P.C.B., THE FAN 2, AND THE COVER SWITCH P.C.B.

1. 1) Disconnect Connectors CN9500, CN9502, and CN9503.
   2) Remove the Iris P.C.B. by removing the 3 Screws (498).
2. 1) Disconnect Connector CN2008 on the DMD Drive P.C.B.
   2) Remove the Fan 2 by removing the 2 Screws (481).
3. Remove the Cover Switch P.C.B. by removing Screw (421).

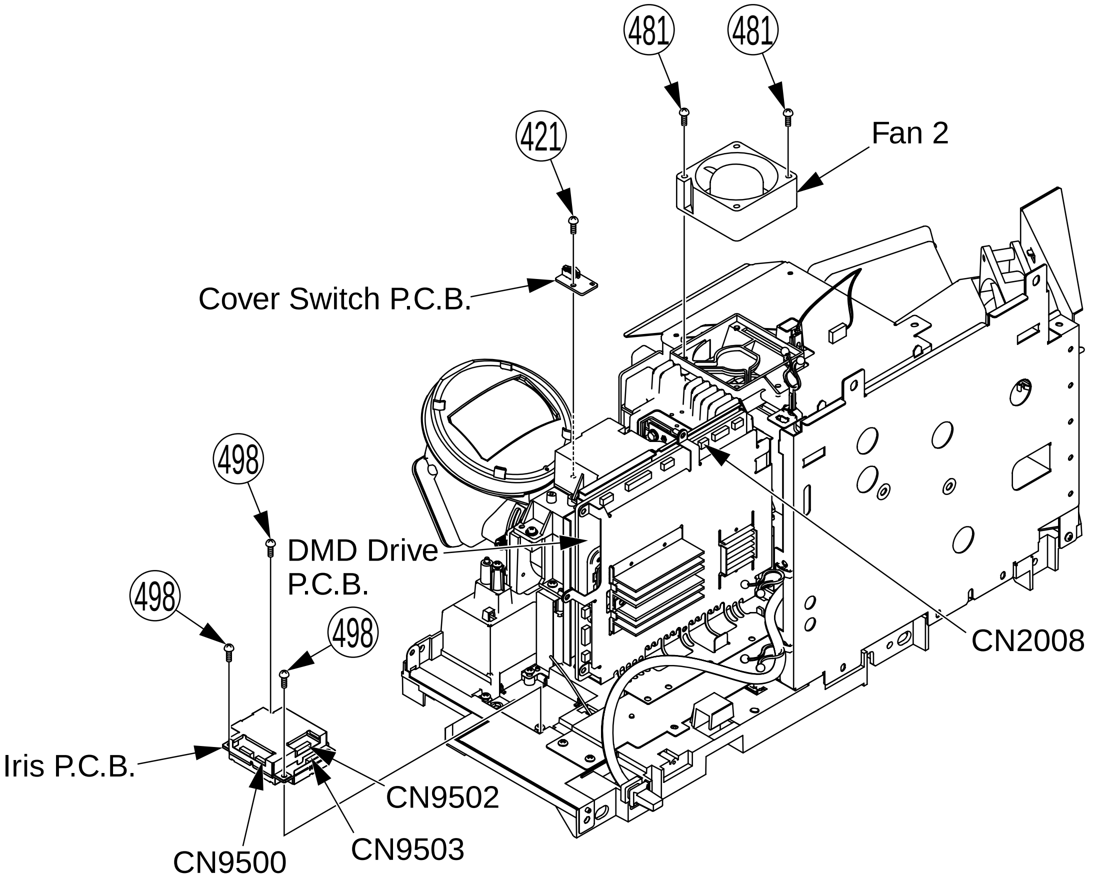

481
481
421
Fan 2
Cover Switch P.C.B.
498
DMD Drive
P.C.B.
498
498
CN2008
Iris P.C.B.
CN9502
CN9503
CN9500

Fig. P4

REMOVAL OF THE BALLAST P.C.B. AND THE LAMP UNIT

1. Open the Power P.C.B./Power PCB Mount Metal. Refer to Step 1 in "REMOVAL OF THE POWER P.C.B."
2. Remove the Lamp Unit by turning the knob from the front.
3. Remove the Ballast Duct by removing the 2 Screws (498).
4. 1) Disconnect the Lamp Connector by removing the 2 Screws (421) and release from the hooks.
    2) Disconnect 2 Connectors on the Ballast P.C.B.
    3) Remove the Ballast P.C.B. by removing the 3 Screws (498).

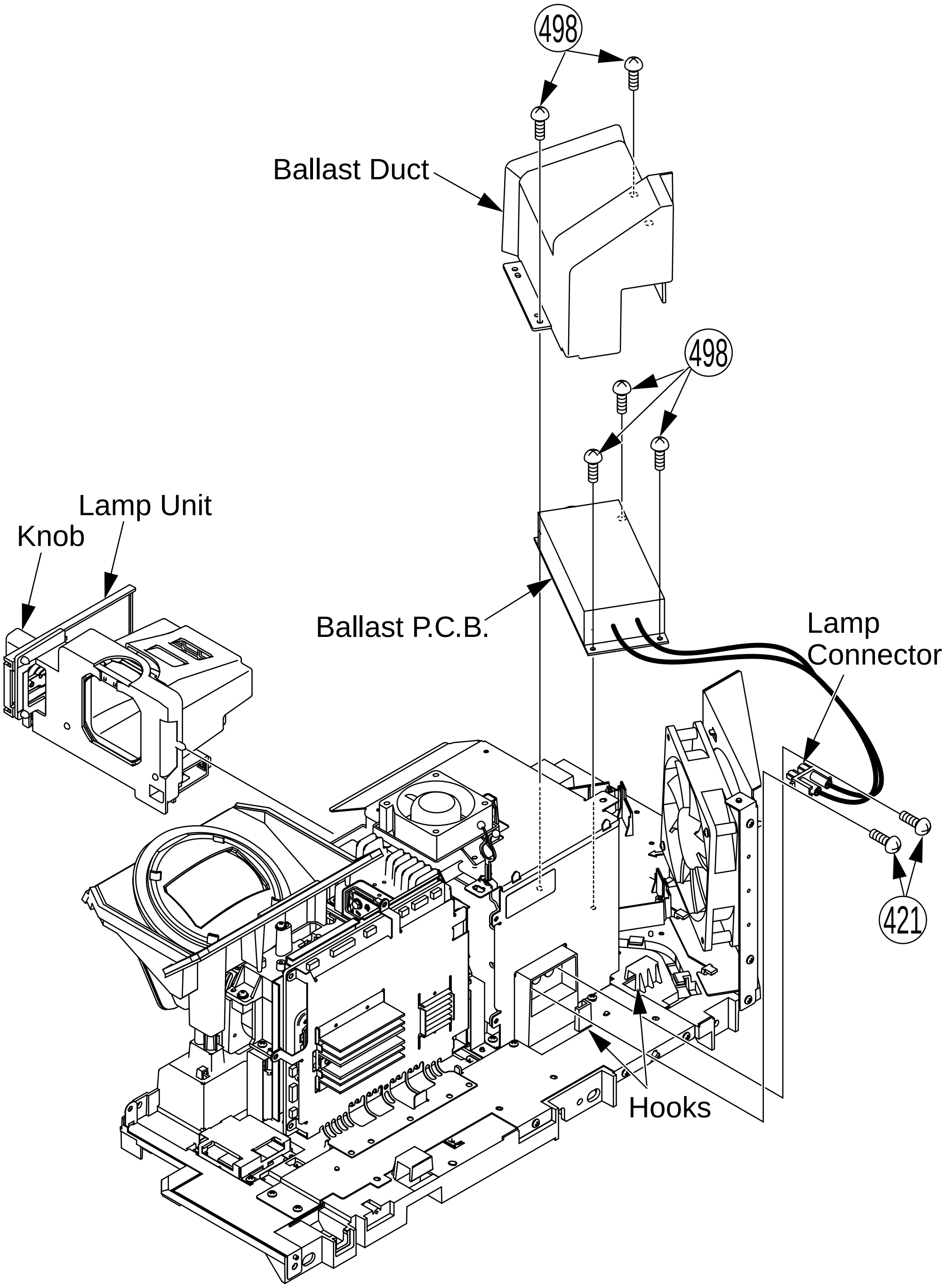

498
Ballast Duct
498
Lamp Unit
Knob
Ballast P.C.B.
Lamp
Connector
421
Hooks

Fig. P6

9 Measurements and Adjustments

9.1. Adjustment Procedures 1

WHEN INSTALLING THE BASE BODY UNIT INTO THE UNIT AT THE USER'S LOCATION

The following adjustments of the Projection Unit must be performed:

a. Focus Adjustment
   Note:
   The Focus Adjustment is not normally necessary when reinstalling.
   However, the Focus Adjustment should be performed when replacing the new Base Body Unit.
c. Mechanical Picture Position Adjustment
d. Electrical Picture Position Adjustment

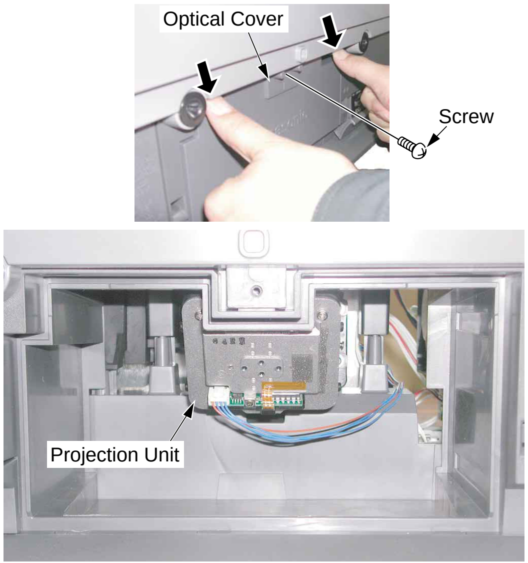
WHEN INSTALLING THE PROJECTION UNIT INTO THE UNIT AT THE USER'S LOCATION

The following adjustments of the Projection Unit must be performed:

a. Focus Adjustment
   Note:
   The Focus Adjustment is not normally necessary when reinstalling.
   However, the Focus Adjustment should be performed when replacing the new Projection Unit.
b. Verifying the Smooth Picture Gain Adjustment on the screen
c. Mechanical Picture Position Adjustment
d. Electrical Picture Position Adjustment
e. Copying the adjustment data of the Projection Unit to the EEPROM IC on the Main P.C.B.
f. Verifying the Color Wheel Index Delay and the white balance on the screen

Adjustment Preparation:

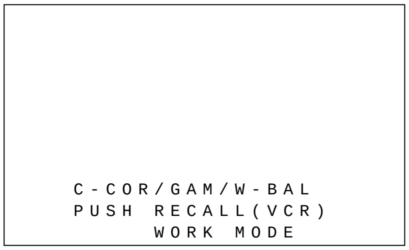
1. Install all parts except the Front Cover Unit.
   Then, remove the Optical Cover by removing the Screw and 2 latch tabs.



(With Front Cover Unit and Optical Cover removed)
<Front View>
Fig. M1-1

Note:
When the rear cover is disassembled, the screen can be moved back and forth, which could affect the video display vertical position. This could also cause the vertical adjust to be at or near its limit.
Only try the picture position adjustment with the rear cover assembled!

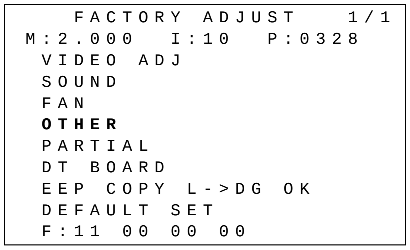
2. 1) Turn the power on.
   2) Be sure to set to VIDEO mode by pressing TV/VIDEO key on the remote.
3. Press and hold the VOLUME DOWN button on the unit and the RECALL key on the remote for more than 5 seconds in power on condition. "WORK MODE" will appear on the screen.



```
C-COR/GAM/W-BAL
PUSH RECALL(VCR)
     WORK MODE
```

<Work Mode>
Fig. M1-2

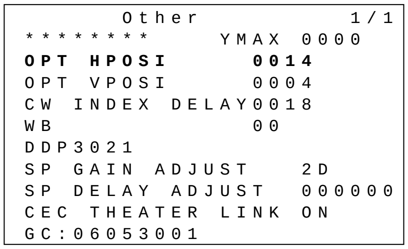
4. Press the VCR key to go to VCR mode, then the RECALL key on the remote for more than 1 second. "FACTORY ADJUST" will appear on the screen.



```
   FACTORY ADJUST    1/1
M:2.000  I:10  P:0328
 VIDEO ADJ
 SOUND
 FAN
 OTHER
 PARTIAL
 DT BOARD
 EEP COPY L->DG OK
 DEFAULT SET
 F:11 00 00 00
```

<Factory Adjust mode>
Fig. M1-3

5. Press the TV key to return to TV mode, then press the CH UP/DOWN key on the remote to select "OTHER" on menu and press the OK key. Other menu will appear.



```
      Other           1/1
********     YMAX 0000
OPT HPOSI       0014
OPT VPOSI       0004
CW INDEX DELAY0018
WB              00
DDP3021
SP GAIN ADJUST    2D
SP DELAY ADJUST   000000
CEC THEATER LINK ON
GC:06053001
```

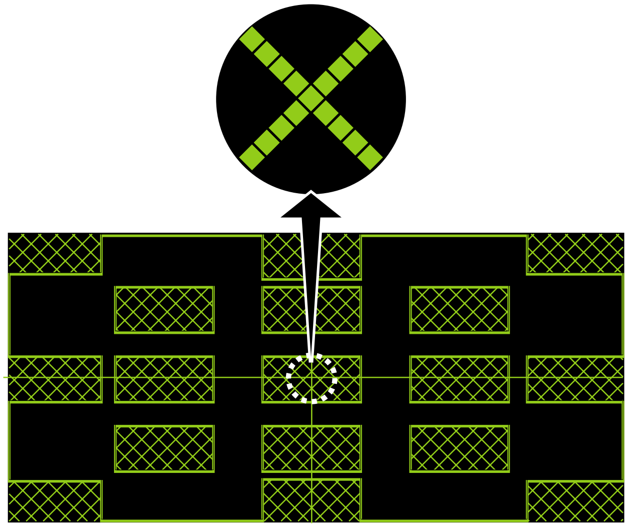
<Factory Adjust Mode>
(OTHER menu 1/1)
Fig. M1-4

To release this mode:

1. After completing the adjustment, press any key on the remote to return to the Other menu.
2. Press RECALL key twice to return to Work Mode, and turn off the power.
3. Install the Optical Cover with the Screw and the Front Cover Unit.

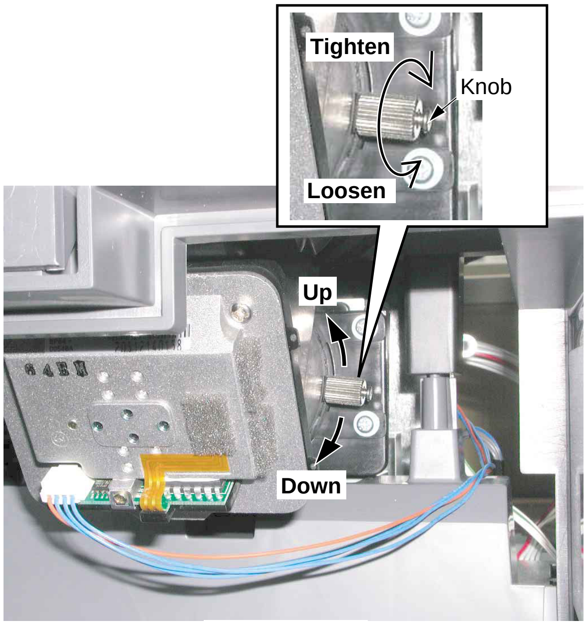
a. Focus Adjustment

1) Press the CH UP/DOWN key on the remote to select "DDP3021" on menu and press the ASPECT key 8 times to select "Focus pattern (SPA OFF)."
2) Confirm that each of the pixels in the center is clearly visible.



<Focus pattern>

3) If not, loosen the Knob on the Projection Lens until the Knob can be moved.



<Front View>

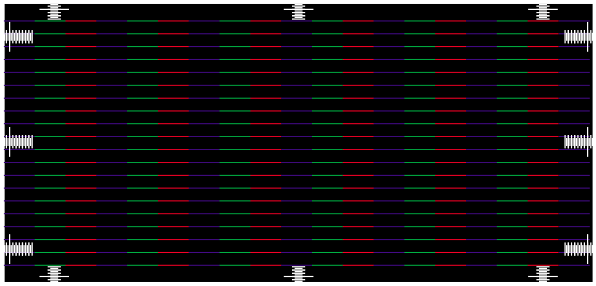
Fig. M1-5

4) Adjust the Knob by moving up or down so that each of the pixels in the center is clearly visible to obtain the best focus.
5) Tighten the Knob.

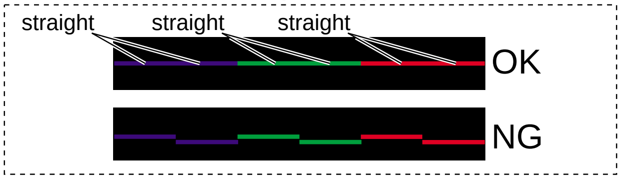
b. Verifying the Smooth Picture Gain Adjustment on the screen

1) Press the ASPECT key once from "Focus pattern" to select "Smooth picture pattern" in DDP3021.
2) Confirm that each set of R, G, B lines is straight.

3) If not, press any key to release this mode and adjust with the following procedure. (In DDP3021 mode, this adjustment cannot be performed.)
4) Press the CH UP/DOWN key on the remote to select "SP GAIN ADJUST" on Other menu and press the ASPECT key on the remote.
5) Adjust SP GAIN ADJUST so that each R, G, B line is straight by holding down the VOLUME UP/DOWN key to change the value.



<Smooth picture pattern>



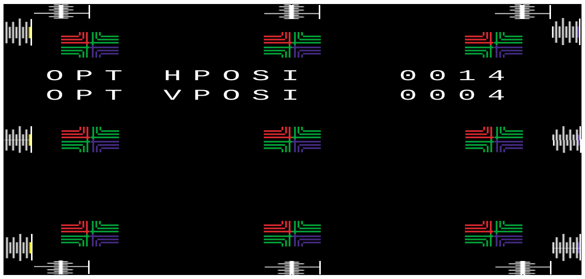
6) After adjusting, press the ASPECT key to return to Other menu.

Note:

While adjusting, do not press the RECALL key on the remote.
Otherwise, the screen may be reflected or frozen.
If this occurs, turn off the power and re-adjust.

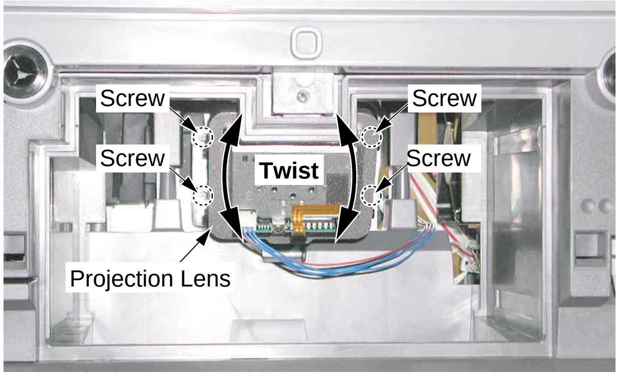
c. Mechanical Picture Position Adjustment (Tilt)

1) Confirm that the unit is set to VIDEO mode before this adjustment.
2) Press the CH UP/DOWN key on the remote to select “OPT HPOSI” on Other menu and press the VOLUME UP/DOWN key on the remote to display "Picture Position Screen."


OPT HPOSI 0014
OPT VPOSI 0004

<Picture Position Screen>

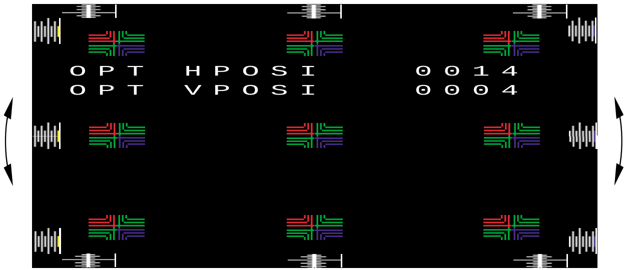
3) Loosen the 4 Screws on the Projection Unit.


Screw
Screw
Screw
Screw
Twist
Projection Lens

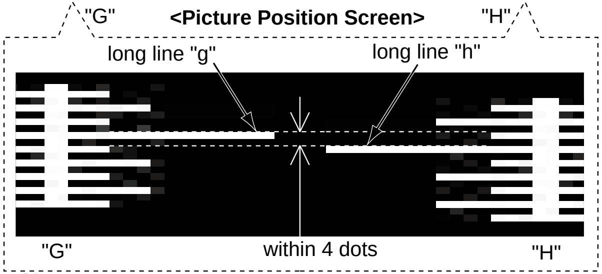
<Front View>

Fig. M1-6

4) Adjust the Projection Lens by twisting so that the long line "g" and the long line "h" are within 4 dots. (The long line "g" and the long line "h" should be aligned horizontally.)


OPT HPOSI 0014
OPT VPOSI 0004

<Picture Position Screen>

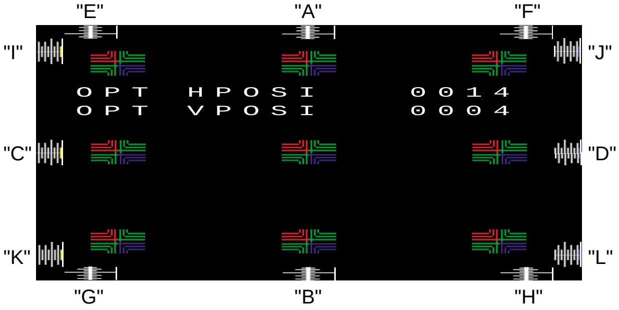

"G"
"H"
long line "g"
long line "h"
"G"
within 4 dots
"H"

Note:
If the Projection Lens is twisted left, the screen twists left.
If the Projection Lens is twisted right, the screen twists right.

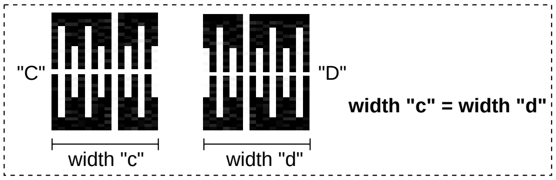
5) Tighten the 4 Screws to fix the Projection Lens.

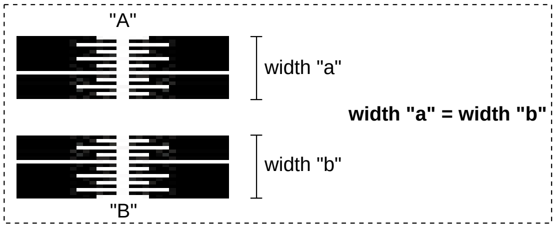
d. Electrical Picture Position Adjustment

1) Adjust OPT HPOSI so that "C" is symmetrical to "D" by pressing the VOLUME UP/DOWN key on the remote to change the value.
2) Press the CH UP/DOWN key on the remote to return to the Other menu.
3) Select OPT VPOSI by pressing CH UP/DOWN key on the remote.
4) Adjust OPT VPOSI so that "A" is symmetrical to "B" by pressing the VOLUME UP/DOWN key on the remote to change the value.


OPT HPOSI 0014
OPT VPOSI 0004
"E"
"A"
"F"
"I"
"J"
"C"
"D"
"K"
"L"
"G"
"B"
"H"

<Picture Position Screen>


"C"
"D"
width "c"
width "d"
width "c" = width "d"


"A"
width "a"
width "a" = width "b"
width "b"
"B"

5) Confirm that "A", "B", "C", "D", "E", "F", "G", "H", "I", "J", "K", "L" are all symmetrical.
6) If not, adjust the "OPT HPOSI" and "OPT VPOSI" (repeat steps 1-6) until the picture is in the correct position.
7) Press the CH UP/DOWN key on the remote to return to the Other menu.

e. Copying the adjustment data of the Projection Unit to the EEPROM IC on the Main P.C.B.

1) Press the CH UP/DOWN key on the remote to select "EEP COPY L->DG" on main menu.

FACTORY ADJUST 1/1
M:2.000 I:10 P:0328
VIDEO ADJ
SOUND
FAN
OTHER
PARTIAL
DT BOARD
EEP COPY L->DG
DEFAULT SET
F:11 00 00 00

<Factory Adjust mode>

Fig. M1-7

2) Press the OK key for more than 5 seconds. "OK" will appear for 5 seconds. The adjustment data of the Projection Unit will be copied to EEPROM IC on the Main P.C.B.

FACTORY ADJUST 1/1
M:2.000 I:10 P:0328
VIDEO ADJ
SOUND
FAN
OTHER
PARTIAL
DT BOARD
EEP COPY L->DG OK
DEFAULT SET
F:11 00 00 00

<Factory Adjust mode>

Fig. M1-8

3) Turn the power off to complete copying.

Note:
Turning the power off finalizes the copying process.

f. Verifying the Color Wheel Index Delay and the white balance on the screen

1) Turn the power on, display the internal pattern for "Color Wheel Index Delay" in Factory Adjust Mode.
If required, perform the "Color Wheel Index Delay" adjustment.
2) Check the white balance on the screen. If required, perform the "White Balance" adjustment.

9.2. Adjustment Procedures 2

INITIAL GUIDELINES

The table below shows which adjustments are necessary according to the unit parts and individual parts to be replaced. Make sure to perform the adjustments shown below as necessary.

			Replacement Parts		
Adjustment Item		**Adjustment data is written to following EEPROM IC**	Projection Unit (Ref No. 21)	Color Wheel (Ref No. 235)	Color Wheel P.C.B. (Ref No. E120)
Color Wheel Section	Color Wheel Index Delay Adjustment*3	IC6000 on Main P.C.B.	○	○	△ *2
	White Balance Adjustment *3	IC6000 on Main P.C.B.	△ *2	△ *2	△ *2

Note:

1. ○ : Adjustment Item

*2. △ : Check the picture on the screen. If OK, the adjustment is not necessary.

*3. The adjustment data of "Color Wheel Index Delay" and "White Balance" will be written to EEPROM IC (IC6000) on the Main P.C.B. Therefore, be sure to perform these adjustment **at the user's location**.

Fig. E1-1

Perform the necessary adjustments according to the following flow chart.

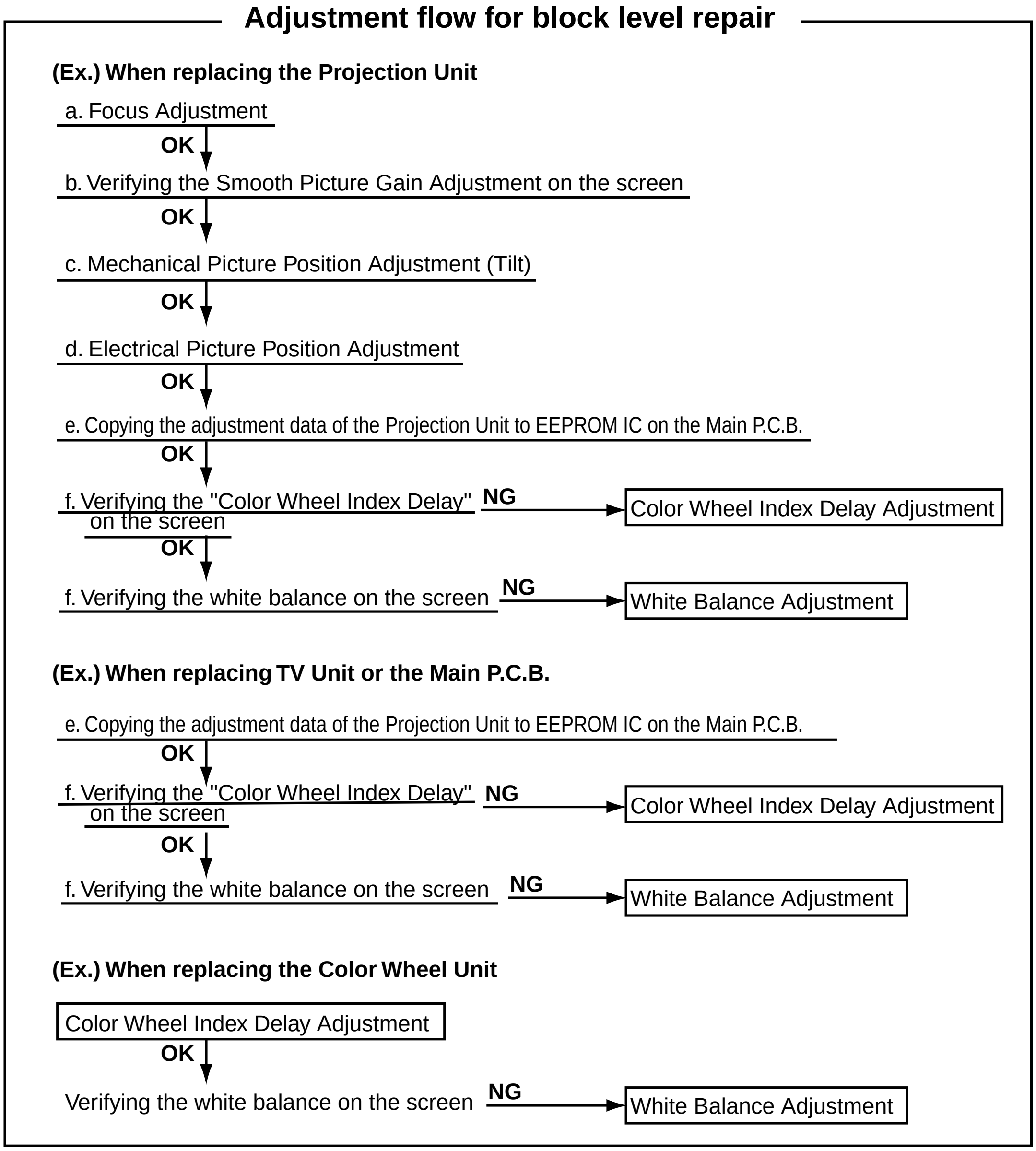
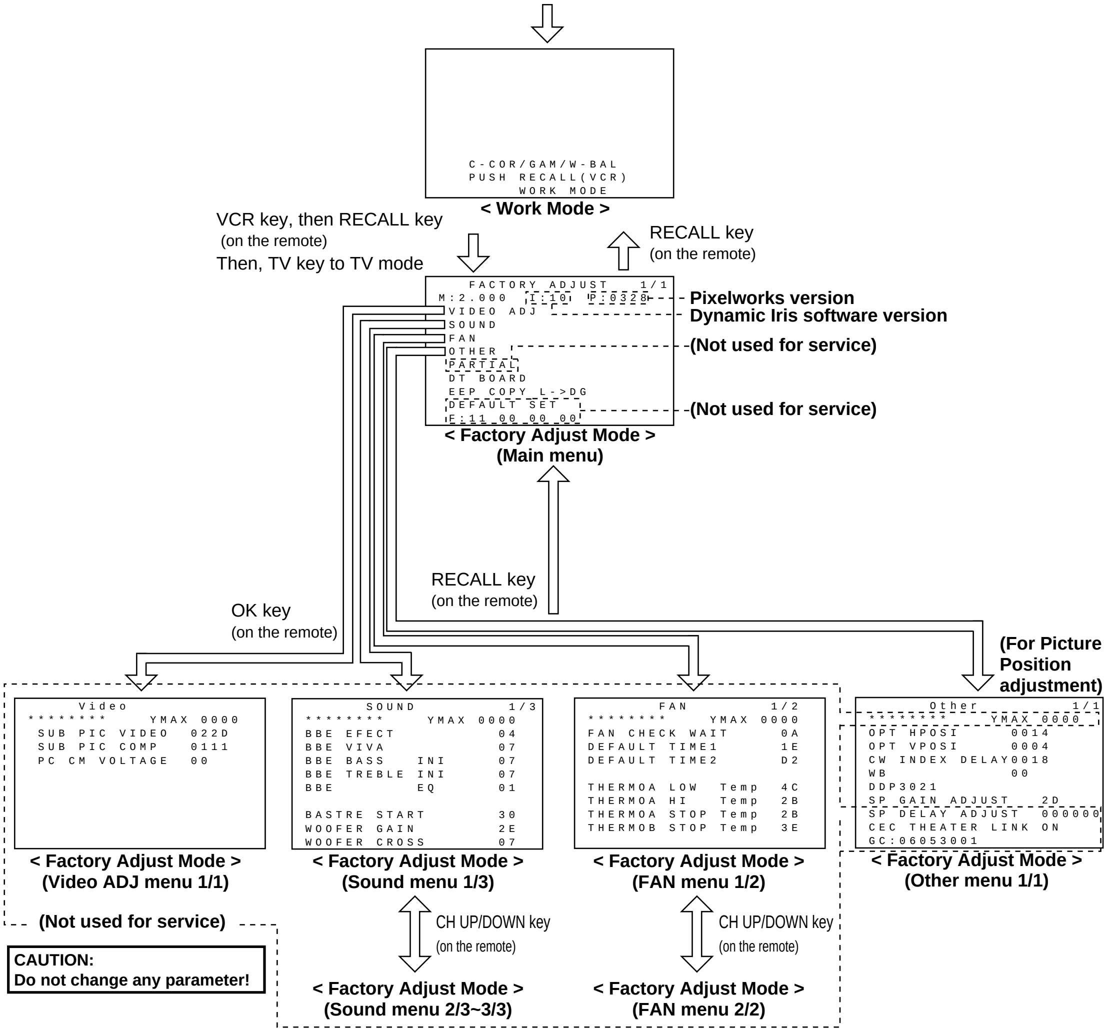

Adjustment flow for block level repair
(Ex.) When replacing the Projection Unit
a. Focus Adjustment
OK
b. Verifying the Smooth Picture Gain Adjustment on the screen
OK
c. Mechanical Picture Position Adjustment (Tilt)
OK
d. Electrical Picture Position Adjustment
OK
e. Copying the adjustment data of the Projection Unit to EEPROM IC on the Main P.C.B.
OK
f. Verifying the "Color Wheel Index Delay" on the screen
NG
Color Wheel Index Delay Adjustment
OK
f. Verifying the white balance on the screen
NG
White Balance Adjustment
(Ex.) When replacing TV Unit or the Main P.C.B.
e. Copying the adjustment data of the Projection Unit to EEPROM IC on the Main P.C.B.
OK
f. Verifying the "Color Wheel Index Delay" on the screen
NG
Color Wheel Index Delay Adjustment
OK
f. Verifying the white balance on the screen
NG
White Balance Adjustment
(Ex.) When replacing the Color Wheel Unit
Color Wheel Index Delay Adjustment
OK
Verifying the white balance on the screen
NG
White Balance Adjustment

Fig. E1-2

WORK MODE AND FACTORY ADJUST MODE

Work Mode Map

Enter:
VOLUME DOWN button + RECALL key
(on the front) (on the remote)
(for more than 5 seconds in power on condition)


< Work Mode >
VCR key, then RECALL key
(on the remote)
Then, TV key to TV mode
RECALL key
(on the remote)
Pixelworks version
Dynamic Iris software version
(Not used for service)
(Not used for service)
< Factory Adjust Mode >
(Main menu)
RECALL key
(on the remote)
OK key
(on the remote)
(For Picture Position adjustment)
< Factory Adjust Mode >
(Video ADJ menu 1/1)
< Factory Adjust Mode >
(Sound menu 1/3)
< Factory Adjust Mode >
(FAN menu 1/2)
< Factory Adjust Mode >
(Other menu 1/1)
(Not used for service)
CH UP/DOWN key
(on the remote)
CH UP/DOWN key
(on the remote)
< Factory Adjust Mode >
(Sound menu 2/3~3/3)
< Factory Adjust Mode >
(FAN menu 2/2)

```
C-COR/GAM/W-BAL
PUSH RECALL(VCR)
     WORK MODE
```

```
   FACTORY ADJUST    1/1
M:2.000  I:10  P:0328
VIDEO ADJ
SOUND
FAN
OTHER
PARTIAL
DT BOARD
EEP COPY L->DG
DEFAULT SET
F:11 00 00 00
```

```
     Video
********      YMAX 0000
 SUB PIC VIDEO   022D
 SUB PIC COMP    0111
 PC CM VOLTAGE   00
```

```
        SOUND          1/3
********      YMAX 0000
BBE EFECT             04
BBE VIVA              07
BBE BASS    INI       07
BBE TREBLE  INI       07
BBE         EQ        01

BASTRE START          30
WOOFER GAIN           2E
WOOFER CROSS          07
```

```
        FAN          1/2
********      YMAX 0000
FAN CHECK WAIT        0A
DEFAULT TIME1         1E
DEFAULT TIME2         D2

THERMOA LOW  Temp     4C
THERMOA HI   Temp     2B
THERMOA STOP Temp     2B
THERMOB STOP Temp     3E
```

```
       Other           1/1
********      YMAX 0000
OPT HPOSI        0014
OPT VPOSI        0004
CW INDEX DELAY0018
WB               00
DDP3021
SP GAIN ADJUST     2D
SP DELAY ADJUST    000000
CEC THEATER LINK ON
GC:06053001
```

CAUTION:
Do not change any parameter!

Exit:
VOLUME DOWN button + RECALL key
(on the front) (on the remote)
(for more than 5 seconds in Work Mode)
Alternatively, Power OFF

Factory Adjust Mode

This mode is required when:

- Performing Focus, Smooth Picture Gain, Mechanical Picture Position, Electrical Picture Position, Color Wheel Index Delay and White Balance adjustments [Other menu].
- Copying the Color Wheel Index Delay and White Balance adjustment data stored in EEPROM IC on the DMD Drive P.C.B. to EEPROM IC on the Main P.C.B. [main menu].

To enter the Factory Adjust Mode:

1) In Work Mode, press the VCR key go to VCR mode, then the RECALL key for more than 1 second. The unit will go into Factory Adjust Mode. ("FACTORY ADJUST" will appear on the screen.)
2) Press the TV key to return to TV mode, then press CH UP/DOWN key to select and press the OK key to set the item to be adjusted.
3) After completing adjustments, press the RECALL key twice to return to Work Mode.
   The adjustment data will be written to the EEPROM.

Note:

Do not unplug the AC Cord in Factory Adjust Mode or the adjustment data will not be written to the EEPROM IC.

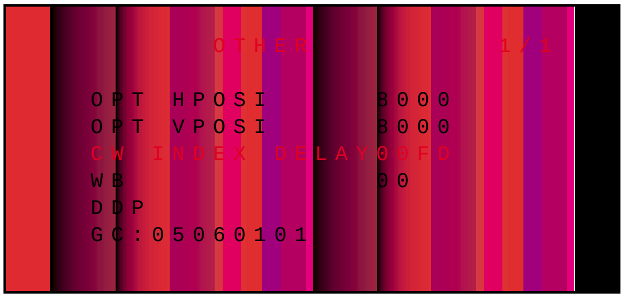
COLOR WHEEL INDEX DELAY ADJUSTMENT

Purpose:

To set the standard color index.

Symptom of Misadjustment:

Many vertical stripes will appear.



```
            OTHER          1/1
OPT  HPOSI          8000
OPT  VPOSI          8000
CW  INDEX  DELAY00FD
WB                  00
DDP
GC:05060101
```

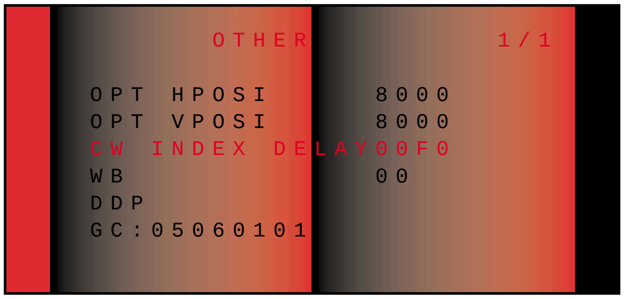
SET UP:

1. Install the Projection Unit into the Cabinet.
2. Enter Work Mode. Then, enter Factory Adjust Mode.
3. Press the CH UP/DOWN key on the remote to select "OTHER" on menu and press the OK key. (Other menu will appear.)
4. Press the CH UP/DOWN key on the remote to select "CW INDEX DELEY" on menu and press the ASPECT key once to select "Red ramp pattern."

To release this mode:

1. After completing the adjustment, press the CH UP/DOWN key on the remote to return to the Other menu.
2. Then, press RECALL key twice to return to Work Mode, and turn off the power.

1. Display the Red ramp pattern by pressing the ASPECT key.
2. Adjust "CW INDEX DELAY" value by pressing the VOLUME UP/DOWN key so that red ramp pattern is even, with no discoloration.

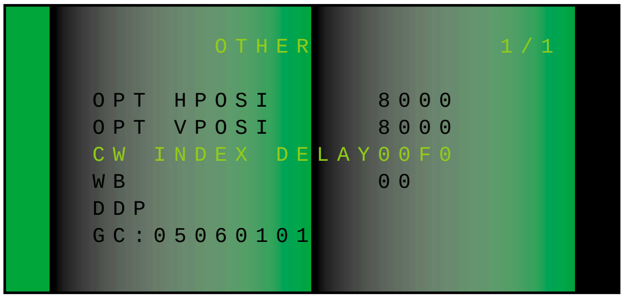


```
            OTHER          1/1
OPT  HPOSI          8000
OPT  VPOSI          8000
CW  INDEX  DELAY00F0
WB                  00
DDP
GC:05060101
```

<Red ramp pattern>

Fig. E5-1

3. Display the Green ramp pattern by pressing the ASPECT key.
4. Confirm the green ramp pattern is even, with no discoloration. If not, adjust "CW INDEX DELAY" value by pressing the VOLUME UP/DOWN key.

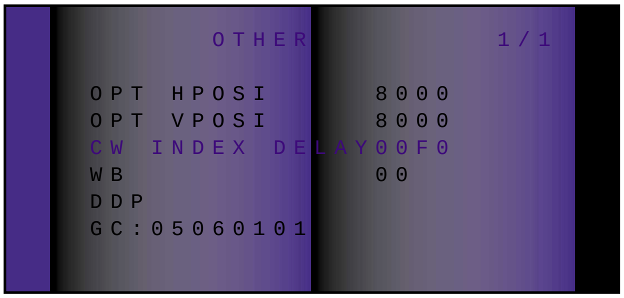


```
            OTHER          1/1
OPT  HPOSI          8000
OPT  VPOSI          8000
CW  INDEX  DELAY00F0
WB                  00
DDP
GC:05060101
```

<Green ramp pattern>

Fig. E5-2

5. Display the Blue ramp pattern by pressing the ASPECT key.
6. Confirm the blue ramp pattern is even, with no discoloration. If not, adjust "CW INDEX DELAY" value by pressing the VOLUME UP/DOWN key.



```
            OTHER          1/1
OPT  HPOSI          8000
OPT  VPOSI          8000
CW  INDEX  DELAY00F0
WB                  00
DDP
GC:05060101
```

<Blue ramp pattern>

Fig. E5-3

7. Repeat the above steps until all patterns are even, with no discoloration.

Note:

After this adjustment, do not copy using the EEP COPY L->DG in the Factory Adjust Mode.

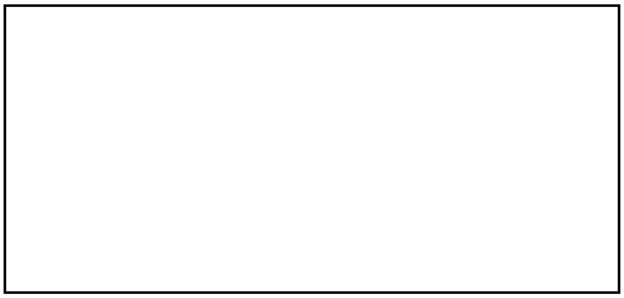
Otherwise, the factory default data of the Projection Unit will be copied to EEPROM IC on the Main P.C.B., and re-adjustment will be necessary.

WHITE BALANCE ADJUSTMENT (Selection of White Balance data)

Note:
Be sure to perform the White Balance Adjustment after turning on the power for more than 3 minutes so that color temperature is stable.

Purpose:
To set the standard white level for color temperature.

Symptom of Misadjustment:
White color of picture will become bluish or reddish.



<100% White signal>

SET UP:

1. Install the Projection Unit into the Cabinet.
2. 1) Press MENU key with the power on.
   2) Set the following setting in Picture menu.
   - Pic. Mode to "Standard"
   - Color Temp to "Normal"
   - Dynamic Iris to "off"
3. Enter Work Mode. Then, enter Factory Adjust Mode.
4. Press the CH UP/DOWN key on the remote to select "OTHER" on menu and press the OK key. (OTHER menu will appear.)
5. Supply 100% White Signal using a video pattern generator. Then, set to VIDEO 1 mode by pressing the TV/VIDEO key.

1. Press the CH UP/DOWN key on the remote to select "WB" on menu.
2. Select "WB" value (00 ~ 05) by pressing VOLUME UP/ DOWN key so that the white color of screen is standard.

WB	color	Color temperature
00	factory default	
01	reddish	low
02	↑	↑
03	(middle)	(middle)
04	↓	↓
05	bluish	high

Note:
If the screen looks bluish, select 01.
If the screen looks reddish, select 05.

Note:
After this adjustment, do not copy using the EEP COPY L->DG in the Factory Adjust Mode.
Otherwise, the factory default data of the Projection Unit will be copied to the EEPROM IC on the Main P.C.B., and re-adjustment will be necessary.

10 Maintenance

10.1. Cleaning Methods

THE SCREEN UNIT AND THE MIRROR

- THE SCREEN UNIT (Lenticular Screen, Fresnel Lens)

It is strongly recommended that the Lenticular Screen surface (outside) and the Fresnel Lens surface (inside) should be wiped gently with a clean, soft, dry cloth to remove the dirt.

Note:

1. If the dirt cannot be removed by wiping with a clean, soft, dry cloth, use a clean, soft, dry cloth moistened with diluted neutral pH liquid cleanser or a lens cleaner (usually containing a small amount of ethyl alcohol) and wipe lightly. Take care not to leave any streaks.
   Do not use cleaning materials containing methyl alcohol, acetone, or dichloromethane.
2. Use an air blower to clean the inner surface of the Lenticular Screen and the outer surface of the Fresnel Lens (the surfaces that one another). These surfaces must not be wiped with a cloth.

- THE MIRROR

Remove any dirt with an air blower or wipe with a clean, soft, dry cloth. If wiped too forcefully, the surface of the Mirror can be damaged. If wiping with a clean, dry cloth does not remove the dirt, the Mirror must be replaced.

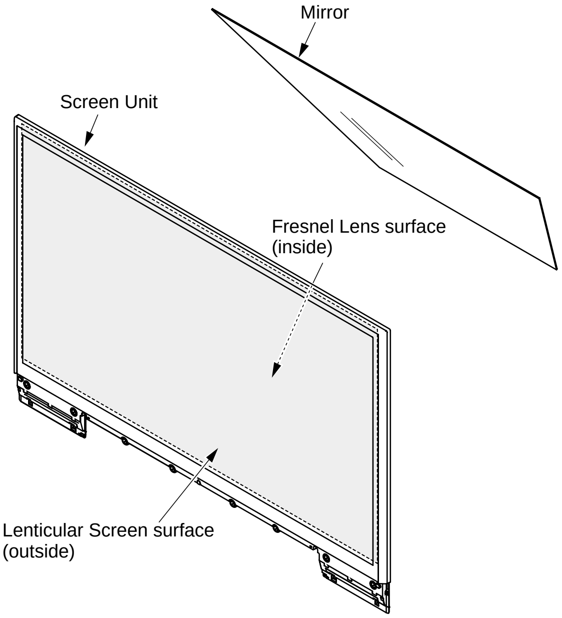


Fig. 6-1

THE LAMP

Gently wipe the surface of the glass of the Lamp with cleaning paper or soft cloth.

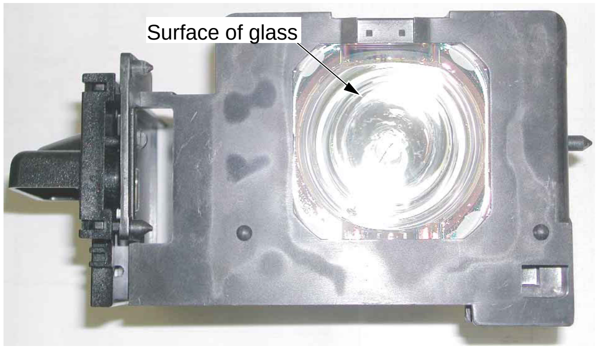


Fig. 6-2

THE PROJECTION LENS

Use lens cleaning paper and cleaner available at your local camera shop, etc. Dampen the cleaning paper with cleaner and gently wipe the surface of the lens from the center outward to remove dust.

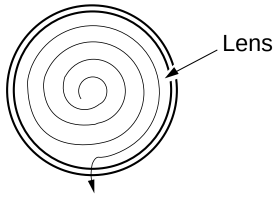


Fig. 6-3

THE COLOR WHEEL

1) Use an air blower to clean the Color Wheel.
2) If any dirt remains, the Color Wheel surface should be wiped gently with a clean, soft, dry cloth to remove any dirt.

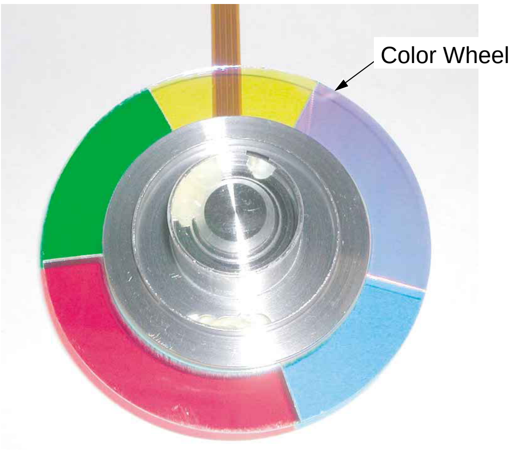
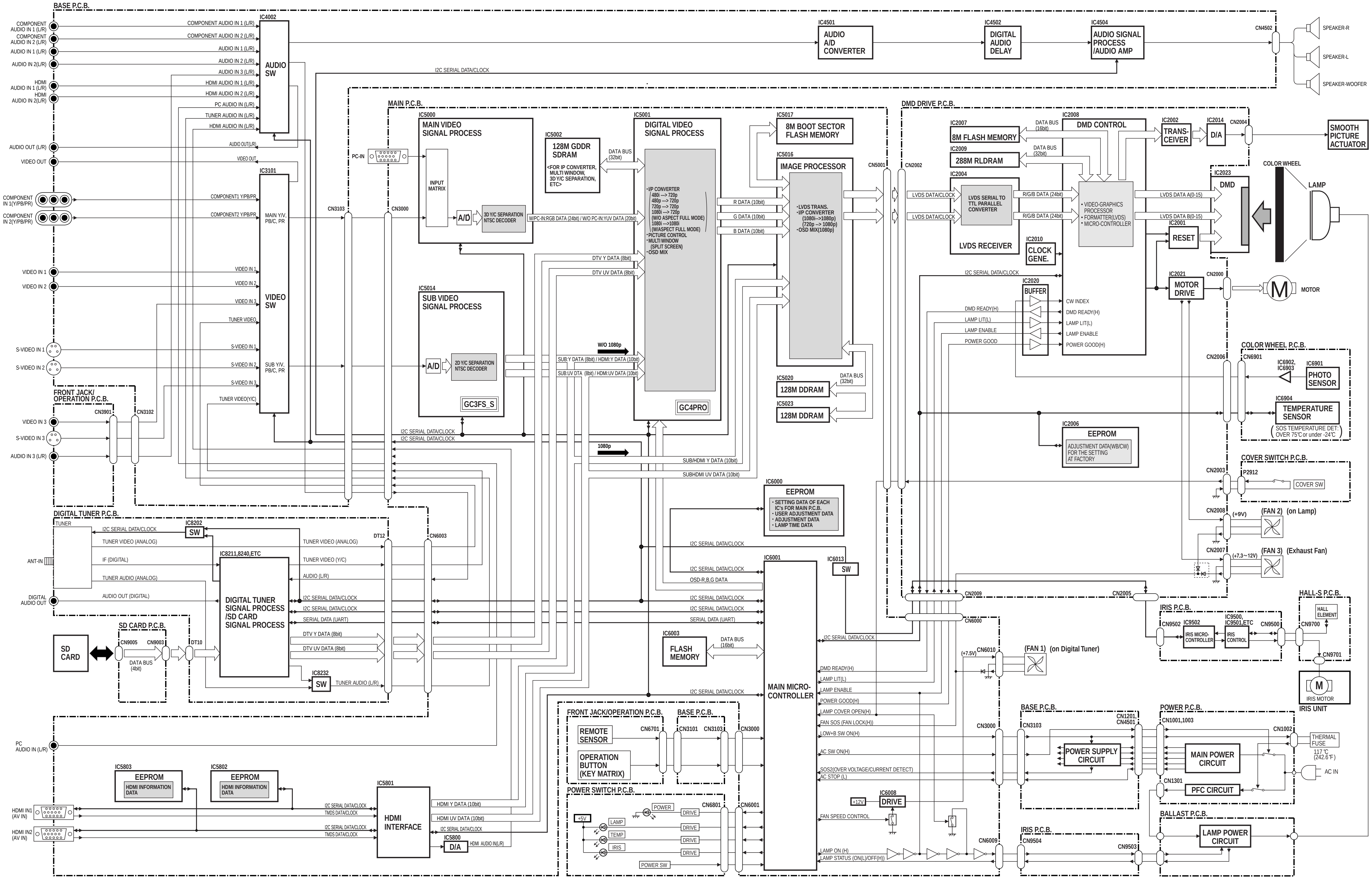


Fig. 6-4

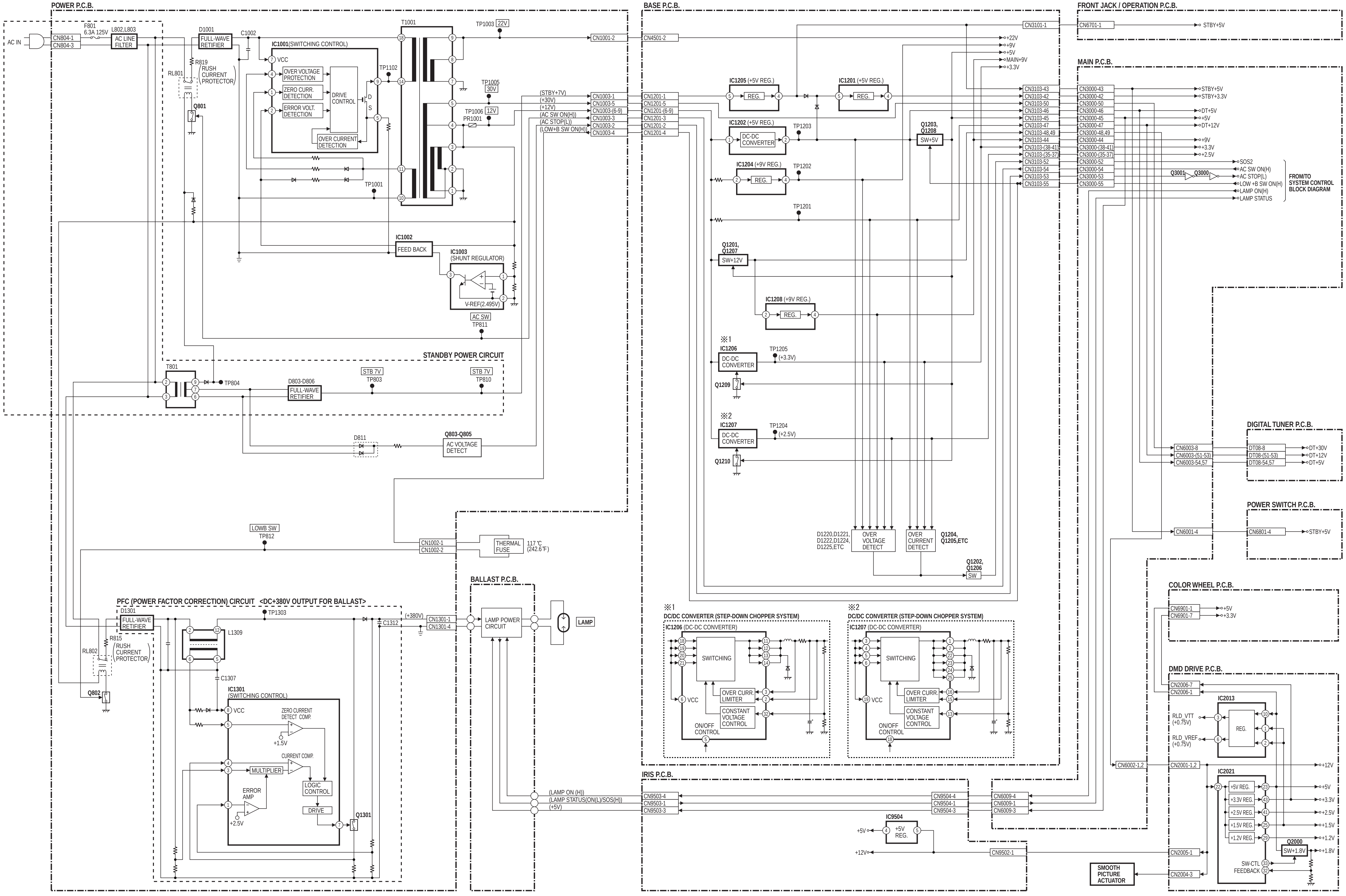
11 Block Diagrams

OVERALL BLOCK DIAGRAM


BASE P.C.B.
COMPONENT AUDIO IN 1 (L/R)
COMPONENT AUDIO IN 2 (L/R)
AUDIO IN 1 (L/R)
AUDIO IN 2(L/R)
HDMI AUDIO IN 1 (L/R)
HDMI AUDIO IN 2(L/R)
AUDIO OUT (L/R)
VIDEO OUT
COMPONENT IN 1(Y/PB/PR)
COMPONENT IN 2(Y/PB/PR)
VIDEO IN 1
VIDEO IN 2
S-VIDEO IN 1
S-VIDEO IN 2
FRONT JACK/ OPERATION P.C.B.
CN3901
CN3102
VIDEO IN 3
S-VIDEO IN 3
AUDIO IN 3 (L/R)
IC4002
AUDIO SW
IC3101
VIDEO SW
MAIN Y/V, PB/C, PR
SUB Y/V, PB/C, PR
COMPONENT AUDIO IN 1 (L/R)
COMPONENT AUDIO IN 2 (L/R)
AUDIO IN 1 (L/R)
AUDIO IN 2 (L/R)
AUDIO IN 3 (L/R)
HDMI AUDIO IN 1 (L/R)
HDMI AUDIO IN 2 (L/R)
PC AUDIO IN (L/R)
TUNER AUDIO IN (L/R)
HDMI AUDIO IN (L/R)
AUDIO OUT(L/R)
VIDEO OUT
COMPONENT1 Y/PB/PR
COMPONENT2 Y/PB/PR
VIDEO IN 1
VIDEO IN 2
VIDEO IN 3
TUNER VIDEO
S-VIDEO IN 1
S-VIDEO IN 2
S-VIDEO IN 3
TUNER VIDEO(Y/C)
I2C SERIAL DATA/CLOCK
IC4501
AUDIO A/D CONVERTER
IC4502
DIGITAL AUDIO DELAY
IC4504
AUDIO SIGNAL PROCESS /AUDIO AMP
CN4502
SPEAKER-R
SPEAKER-L
SPEAKER-WOOFER
MAIN P.C.B.
PC-IN
CN3103
CN3000
IC5000
MAIN VIDEO SIGNAL PROCESS
INPUT MATRIX
A/D
3D Y/C SEPARATION NTSC DECODER
IC5002
128M GDDR SDRAM
<FOR IP CONVERTER, MULTI WINDOW, 3D Y/C SEPARATION, ETC>
DATA BUS (32bit)
W/PC-IN:RGB DATA (24bit) / W/O PC-IN:YUV DATA (20bit)
IC5001
DIGITAL VIDEO SIGNAL PROCESS
•I/P CONVERTER
480i ---> 720p
480p ---> 720p
720p ---> 720p
1080i ---> 720p
(W/O ASPECT FULL MODE)
1080i --->1080i
(W/ASPECT FULL MODE)
•PICTURE CONTROL
•MULTI WINDOW (SPLIT SCREEN)
•OSD MIX
GC4PRO
R DATA (10bit)
G DATA (10bit)
B DATA (10bit)
DTV Y DATA (8bit)
DTV UV DATA (8bit)
IC5014
SUB VIDEO SIGNAL PROCESS
A/D
2D Y/C SEPARATION NTSC DECODER
GC3FS_S
W/O 1080p
SUB Y DATA (8bit) / HDMI Y DATA (10bit)
SUB UV DTA (8bit) / HDMI UV DATA (10bit)
I2C SERIAL DATA/CLOCK
I2C SERIAL DATA/CLOCK
1080p
SUB/HDMI Y DATA (10bit)
SUBHDMI UV DATA (10bit)
IC5017
8M BOOT SECTOR FLASH MEMORY
IC5016
IMAGE PROCESSOR
•LVDS TRANS.
•I/P CONVERTER (1080i--->1080p) (720p --> 1080p)
•OSD MIX(1080p)
IC5020
128M DDRAM
DATA BUS (32bit)
IC5023
128M DDRAM
CN5001
CN2002
DMD DRIVE P.C.B.
IC2007
8M FLASH MEMORY
DATA BUS (16bit)
IC2009
288M RLDRAM
DATA BUS (32bit)
IC2004
LVDS SERIAL TO TTL PARALLEL CONVERTER
LVDS RECEIVER
LVDS DATA/CLOCK
LVDS DATA/CLOCK
R/G/B DATA (24bit)
R/G/B DATA (24bit)
IC2008
DMD CONTROL
• VIDEO-GRAPHICS PROCESSOR
• FORMATTER(LVDS)
• MICRO-CONTROLLER
IC2010
CLOCK GENE.
IC2002
TRANS-CEIVER
IC2014
D/A
CN2004
SMOOTH PICTURE ACTUATOR
COLOR WHEEL
IC2023
DMD
LAMP
LVDS DATA A(0-15)
LVDS DATA B(0-15)
IC2001
RESET
I2C SERIAL DATA/CLOCK
IC2020
BUFFER
DMD READY(H)
LAMP LIT(L)
LAMP ENABLE
POWER GOOD
CW INDEX
DMD READY(H)
LAMP LIT(L)
LAMP ENABLE
POWER GOOD(H)
IC2021
MOTOR DRIVE
CN2000
MOTOR
COLOR WHEEL P.C.B.
CN2006
CN6901
IC6902, IC6903
IC6901
PHOTO SENSOR
IC6904
TEMPERATURE SENSOR
SOS TEMPERATURE DET.: OVER 75°C or under -24°C
IC2006
EEPROM
ADJUSTMENT DATA(WB/CW) FOR THE SETTING AT FACTORY
COVER SWITCH P.C.B.
CN2003
P2912
COVER SW
CN2008
(+9V)
(FAN 2) (on Lamp)
CN2007
(+7.3~12V)
(FAN 3) (Exhaust Fan)
IC6000
EEPROM
• SETTING DATA OF EACH IC's FOR MAIN P.C.B.
• USER ADJUSTMENT DATA
• ADJUSTMENT DATA
• LAMP TIME DATA
DIGITAL TUNER P.C.B.
TUNER
ANT-IN
DIGITAL AUDIO OUT
I2C SERIAL DATA/CLOCK
TUNER VIDEO (ANALOG)
IF (DIGITAL)
TUNER AUDIO (ANALOG)
AUDIO OUT (DIGITAL)
IC8202
SW
IC8211,8240,ETC
DIGITAL TUNER SIGNAL PROCESS /SD CARD SIGNAL PROCESS
TUNER VIDEO (ANALOG)
TUNER VIDEO (Y/C)
AUDIO (L/R)
I2C SERIAL DATA/CLOCK
I2C SERIAL DATA/CLOCK
SERIAL DATA (UART)
DTV Y DATA (8bit)
DTV UV DATA (8bit)
IC8232
SW
TUNER AUDIO (L/R)
DT12
CN6003
SD CARD P.C.B.
SD CARD
CN9005
CN9003
DT10
DATA BUS (4bit)
I2C SERIAL DATA/CLOCK
I2C SERIAL DATA/CLOCK
OSD-R,B,G DATA
I2C SERIAL DATA/CLOCK
I2C SERIAL DATA/CLOCK
SERIAL DATA (UART)
IC6001
MAIN MICRO-CONTROLLER
IC6013
SW
IC6003
FLASH MEMORY
DATA BUS (16bit)
I2C SERIAL DATA/CLOCK
I2C SERIAL DATA/CLOCK
DMD READY(H)
LAMP LIT(L)
LAMP ENABLE
POWER GOOD(H)
LAMP COVER OPEN(H)
FAN SOS (FAN LOCK(H))
LOW+B SW ON(H)
AC SW ON(H)
SOS2(OVER VOLTAGE/CURRENT DETECT)
AC STOP (L)
FAN SPEED CONTROL
LAMP ON (H)
LAMP STATUS (ON(L)/OFF(H))
CN2009
CN2005
CN6000
CN6010
(+7.5V)
(FAN 1) (on Digital Tuner)
IC6008
+12V
DRIVE
HALL-S P.C.B.
HALL ELEMENT
IRIS P.C.B.
CN9502
IC9502
IRIS MICRO-CONTROLLER
IC9500, IC9501,ETC
IRIS CONTROL
CN9500
CN9700
CN9701
IRIS MOTOR
IRIS UNIT
PC AUDIO IN (L/R)
FRONT JACK/OPERATION P.C.B.
REMOTE SENSOR
OPERATION BUTTON (KEY MATRIX)
CN6701
BASE P.C.B.
CN3101
CN3103
CN3000
POWER SWITCH P.C.B.
POWER
LAMP
TEMP
IRIS
+5V
DRIVE
DRIVE
DRIVE
DRIVE
POWER SW
CN6801
CN6001
IC5803
EEPROM
HDMI INFORMATION DATA
IC5802
EEPROM
HDMI INFORMATION DATA
HDMI IN1 (AV IN)
HDMI IN2 (AV IN)
I2C SERIAL DATA/CLOCK
TMDS DATA/CLOCK
I2C SERIAL DATA/CLOCK
TMDS DATA/CLOCK
IC5801
HDMI INTERFACE
HDMI Y DATA (10bit)
HDMI UV DATA (10bit)
IC5800
D/A
HDMI AUDIO IN(L/R)
BASE P.C.B.
CN3000
CN3103
CN1201, CN4501
POWER SUPPLY CIRCUIT
POWER P.C.B.
CN1001,1003
CN1002
MAIN POWER CIRCUIT
THERMAL FUSE
117°C (242.6°F)
AC IN
CN1301
PFC CIRCUIT
IRIS P.C.B.
CN6009
CN9504
CN9503
BALLAST P.C.B.
LAMP POWER CIRCUIT

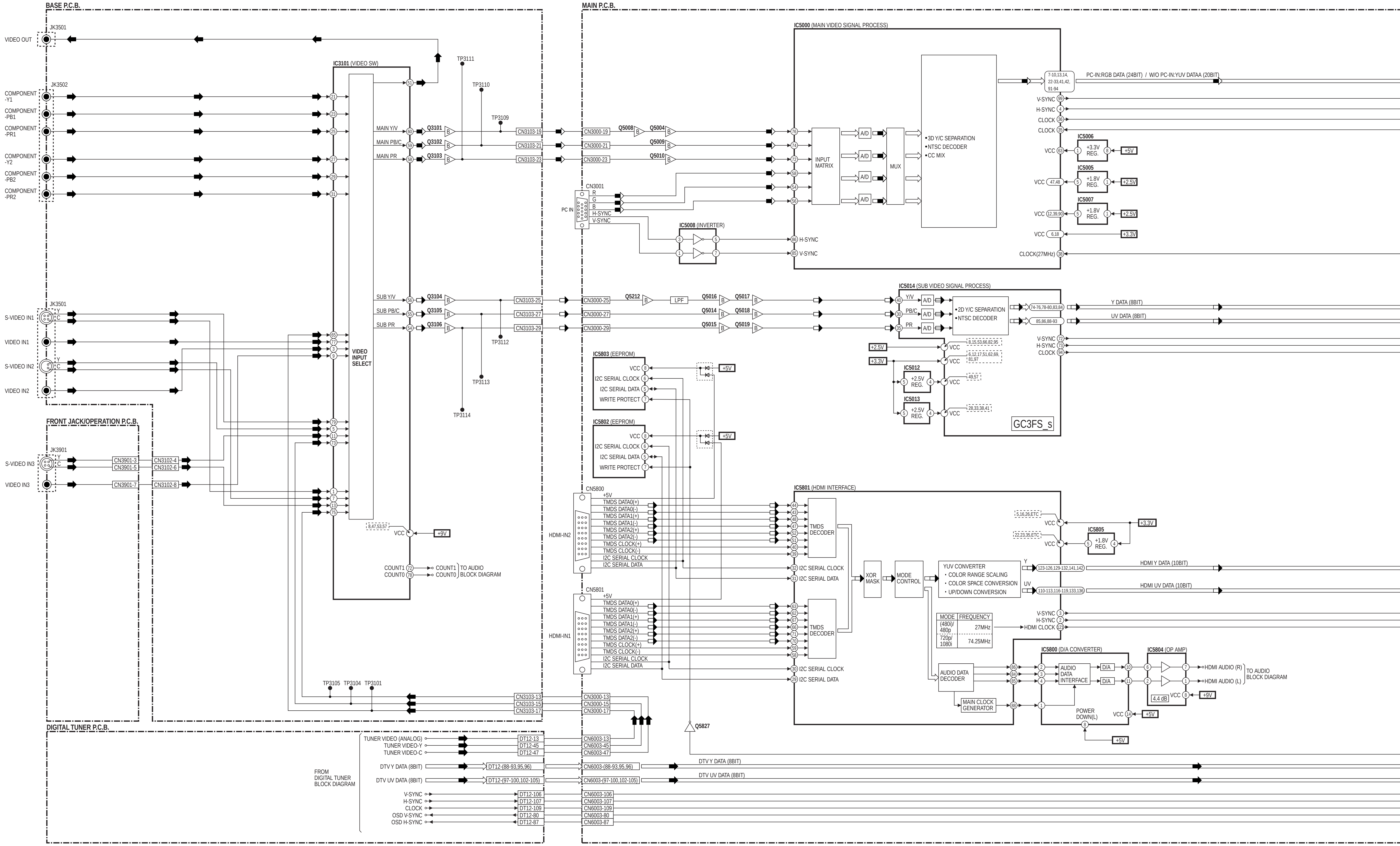
OVERALL BLOCK DIAGRAM
PT-56DLX76/PT-61DLX76/PT-61DLX26

POWER SUPPLY BLOCK DIAGRAM


POWER P.C.B.
AC IN
CN804-1
CN804-3
F801
6.3A 125V
L802,L803
AC LINE FILTER
D1001
FULL-WAVE RETIFIER
C1002
RL801
R819
RUSH CURRENT PROTECTOR
Q801
IC1001(SWITCHING CONTROL)
VCC
OVER VOLTAGE PROTECTION
ZERO CURR. DETECTION
ERROR VOLT. DETECTION
DRIVE CONTROL
OVER CURRENT DETECTION
D
S
TP1102
TP1001
T1001
TP1003 22V
TP1005 30V
TP1006 12V
PR1001
(STBY+7V)
(+30V)
(+12V)
(AC SW ON(H))
(AC STOP(L))
(LOW+B SW ON(H))
CN1001-2
CN1003-1
CN1003-5
CN1003-(6-9)
CN1003-3
CN1003-2
CN1003-4
IC1002
FEED BACK
IC1003
(SHUNT REGULATOR)
V-REF(2.495V)
AC SW
TP811
STANDBY POWER CIRCUIT
T801
TP804
D803-D806
FULL-WAVE RETIFIER
STB 7V
TP803
STB 7V
TP810
D811
Q803-Q805
AC VOLTAGE DETECT
LOWB SW
TP812
CN1002-1
CN1002-2
THERMAL FUSE
117℃ (242.6℉)
PFC (POWER FACTOR CORRECTION) CIRCUIT <DC+380V OUTPUT FOR BALLAST>
D1301
FULL-WAVE RETIFIER
TP1303
L1309
C1307
C1312
(+380V)
CN1301-1
CN1301-4
R815
RL802
RUSH CURRENT PROTECTOR
Q802
IC1301
(SWITCHING CONTROL)
VCC
ZERO CURRENT DETECT COMP.
+1.5V
CURRENT COMP.
MULTIPLIER
LOGIC CONTROL
ERROR AMP
DRIVE
+2.5V
Q1301
BALLAST P.C.B.
LAMP POWER CIRCUIT
LAMP
(LAMP ON (H))
(LAMP STATUS(ON(L)/SOS(H))
(+5V)
BASE P.C.B.
CN4501-2
CN1201-1
CN1201-5
CN1201-(6-9)
CN1201-3
CN1201-2
CN1201-4
IC1205 (+5V REG.)
REG.
IC1201 (+5V REG.)
REG.
IC1202 (+5V REG.)
DC-DC CONVERTER
TP1203
IC1204 (+9V REG.)
REG.
TP1202
TP1201
Q1203, Q1208
SW+5V
Q1201, Q1207
SW+12V
IC1208 (+9V REG.)
REG.
※1
IC1206
DC-DC CONVERTER
TP1205
(+3.3V)
Q1209
※2
IC1207
DC-DC CONVERTER
TP1204
(+2.5V)
Q1210
+22V
+9V
+5V
MAIN+9V
+3.3V
CN3101-1
CN3103-43
CN3103-42
CN3103-50
CN3103-46
CN3103-45
CN3103-47
CN3103-48,49
CN3103-44
CN3103-(38-41)
CN3103-(35-37)
CN3103-52
CN3103-54
CN3103-53
CN3103-55
D1220,D1221, D1222,D1224, D1225,ETC
OVER VOLTAGE DETECT
OVER CURRENT DETECT
Q1204, Q1205,ETC
Q1202, Q1206
SW
※1
DC/DC CONVERTER (STEP-DOWN CHOPPER SYSTEM)
IC1206 (DC-DC CONVERTER)
SWITCHING
OVER CURR. LIMITER
CONSTANT VOLTAGE CONTROL
ON/OFF CONTROL
VCC
※2
DC/DC CONVERTER (STEP-DOWN CHOPPER SYSTEM)
IC1207 (DC-DC CONVERTER)
SWITCHING
OVER CURR. LIMITER
CONSTANT VOLTAGE CONTROL
ON/OFF CONTROL
VCC
IRIS P.C.B.
CN9503-4
CN9503-1
CN9503-3
CN9504-4
CN9504-1
CN9504-3
IC9504
+5V REG.
+5V
+12V
CN9502-1
FRONT JACK / OPERATION P.C.B.
CN6701-1
STBY+5V
MAIN P.C.B.
CN3000-43
CN3000-42
CN3000-50
CN3000-46
CN3000-45
CN3000-47
CN3000-48,49
CN3000-44
CN3000-(38-41)
CN3000-(35-37)
CN3000-52
CN3000-54
CN3000-53
CN3000-55
STBY+5V
STBY+3.3V
DT+5V
+5V
DT+12V
+9V
+3.3V
+2.5V
SOS2
AC SW ON(H)
AC STOP(L)
LOW +B SW ON(H)
LAMP ON(H)
LAMP STATUS
Q3001
Q3000
FROM/TO SYSTEM CONTROL BLOCK DIAGRAM
CN6009-4
CN6009-1
CN6009-3
CN6002-1,2
DIGITAL TUNER P.C.B.
CN6003-8
CN6003-(51-53)
CN6003-54,57
DT08-8
DT08-(51-53)
DT08-54,57
DT+30V
DT+12V
DT+5V
POWER SWITCH P.C.B.
CN6001-4
CN6801-4
STBY+5V
COLOR WHEEL P.C.B.
CN6901-1
CN6901-7
+5V
+3.3V
DMD DRIVE P.C.B.
CN2006-7
CN2006-1
IC2013
REG.
RLD_VTT (+0.75V)
RLD_VREF (+0.75V)
CN2001-1,2
+12V
IC2021
+5V REG.
+3.3V REG.
+2.5V REG.
+1.5V REG.
+1.2V REG.
+5V
+3.3V
+2.5V
+1.5V
+1.2V
Q2000
SW+1.8V
+1.8V
SW-CTL
FEEDBACK
CN2005-1
CN2004-3
SMOOTH PICTURE ACTUATOR

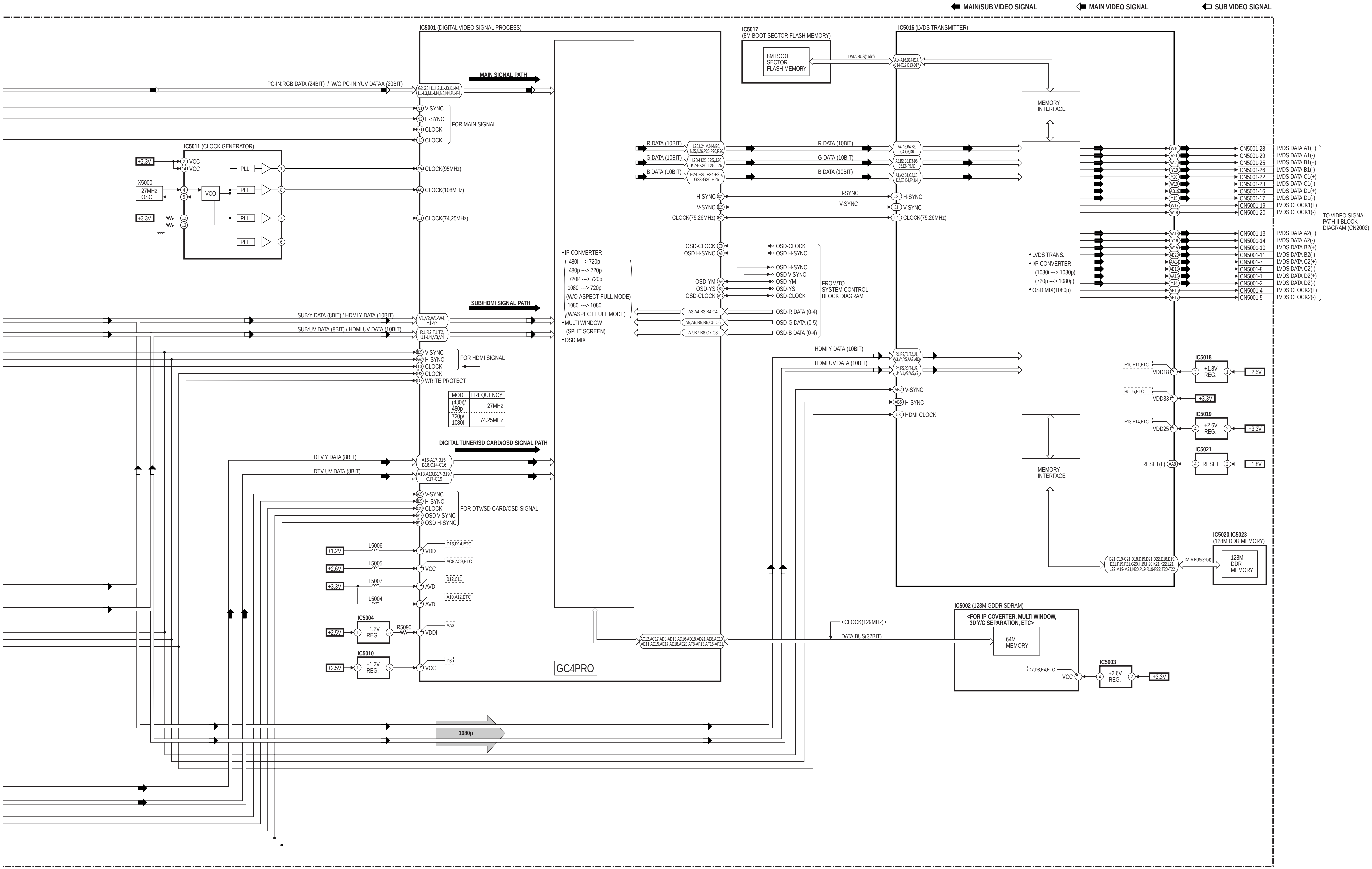
POWER SUPPLY BLOCK DIAGRAM
PT-56DLX76/PT-61DLX76/PT-61DLX26

VIDEO SIGNAL PATH I BLOCK DIAGRAM (1/2)

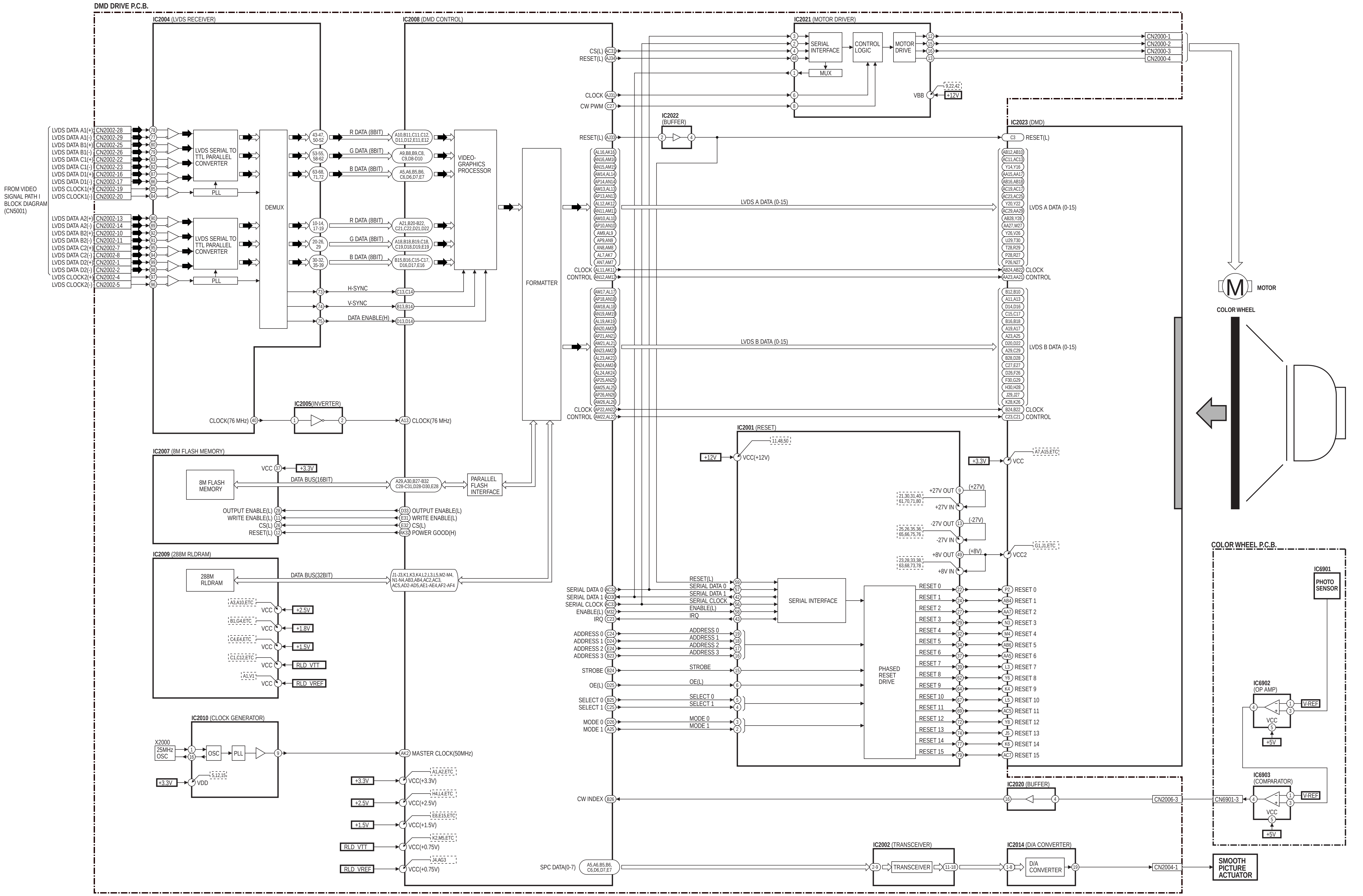

BASE P.C.B.
MAIN P.C.B.
FRONT JACK/OPERATION P.C.B.
DIGITAL TUNER P.C.B.
JK3501
VIDEO OUT
JK3502
COMPONENT -Y1
COMPONENT -PB1
COMPONENT -PR1
COMPONENT -Y2
COMPONENT -PB2
COMPONENT -PR2
S-VIDEO IN1
VIDEO IN1
S-VIDEO IN2
VIDEO IN2
JK3901
S-VIDEO IN3
VIDEO IN3
CN3901-3
CN3901-5
CN3901-7
CN3102-4
CN3102-6
CN3102-8
IC3101 (VIDEO SW)
VIDEO INPUT SELECT
MAIN Y/V
MAIN PB/C
MAIN PR
SUB Y/V
SUB PB/C
SUB PR
Q3101
Q3102
Q3103
Q3104
Q3105
Q3106
TP3111
TP3110
TP3109
TP3112
TP3113
TP3114
TP3105
TP3104
TP3101
VCC
+9V
COUNT1
COUNT0
TO AUDIO BLOCK DIAGRAM
CN3103-19
CN3103-21
CN3103-23
CN3103-25
CN3103-27
CN3103-29
CN3103-13
CN3103-15
CN3103-17
CN3000-19
CN3000-21
CN3000-23
CN3000-25
CN3000-27
CN3000-29
CN3000-13
CN3000-15
CN3000-17
Q5008
Q5004
Q5009
Q5010
CN3001
PC IN
R
G
B
H-SYNC
V-SYNC
IC5008 (INVERTER)
IC5000 (MAIN VIDEO SIGNAL PROCESS)
INPUT MATRIX
A/D
MUX
3D Y/C SEPARATION
NTSC DECODER
CC MIX
PC-IN:RGB DATA (24BIT) / W/O PC-IN:YUV DATAA (20BIT)
V-SYNC
H-SYNC
CLOCK
CLOCK(27MHz)
IC5006
+3.3V REG.
+5V
IC5005
+1.8V REG.
+2.5V
IC5007
+3.3V
Q5212
LPF
Q5016
Q5017
Q5014
Q5018
Q5015
Q5019
IC5014 (SUB VIDEO SIGNAL PROCESS)
Y/V
PB/C
PR
2D Y/C SEPARATION
NTSC DECODER
Y DATA (8BIT)
UV DATA (8BIT)
IC5012
+2.5V REG.
IC5013
GC3FS_s
IC5803 (EEPROM)
IC5802 (EEPROM)
I2C SERIAL CLOCK
I2C SERIAL DATA
WRITE PROTECT
CN5800
HDMI-IN2
CN5801
HDMI-IN1
TMDS DATA0(+)
TMDS DATA0(-)
TMDS DATA1(+)
TMDS DATA1(-)
TMDS DATA2(+)
TMDS DATA2(-)
TMDS CLOCK(+)
TMDS CLOCK(-)
IC5801 (HDMI INTERFACE)
TMDS DECODER
XOR MASK
MODE CONTROL
YUV CONVERTER
COLOR RANGE SCALING
COLOR SPACE CONVERSION
UP/DOWN CONVERSION
HDMI Y DATA (10BIT)
HDMI UV DATA (10BIT)
IC5805
+1.8V REG.
MODE
FREQUENCY
(480i)/480p
27MHz
720p/1080i
74.25MHz
HDMI CLOCK
AUDIO DATA DECODER
MAIN CLOCK GENERATOR
IC5800 (D/A CONVERTER)
AUDIO DATA INTERFACE
D/A
POWER DOWN(L)
IC5804 (OP AMP)
4.4 dB
HDMI AUDIO (R)
HDMI AUDIO (L)
TO AUDIO BLOCK DIAGRAM
Q5827
TUNER VIDEO (ANALOG)
TUNER VIDEO-Y
TUNER VIDEO-C
DTV Y DATA (8BIT)
DTV UV DATA (8BIT)
OSD V-SYNC
OSD H-SYNC
FROM DIGITAL TUNER BLOCK DIAGRAM
DT12-13
DT12-45
DT12-47
DT12-(88-93,95,96)
DT12-(97-100,102-105)
DT12-106
DT12-107
DT12-109
DT12-80
DT12-87
CN6003-13
CN6003-45
CN6003-47
CN6003-(88-93,95,96)
CN6003-(97-100,102-105)
CN6003-106
CN6003-107
CN6003-109
CN6003-80
CN6003-87

VIDEO SIGNAL PATH I BLOCK DIAGRAM (1/2)
PT-56DLX76/PT-61DLX76/PT-61DLX26

VIDEO SIGNAL PATH I BLOCK DIAGRAM (2/2)

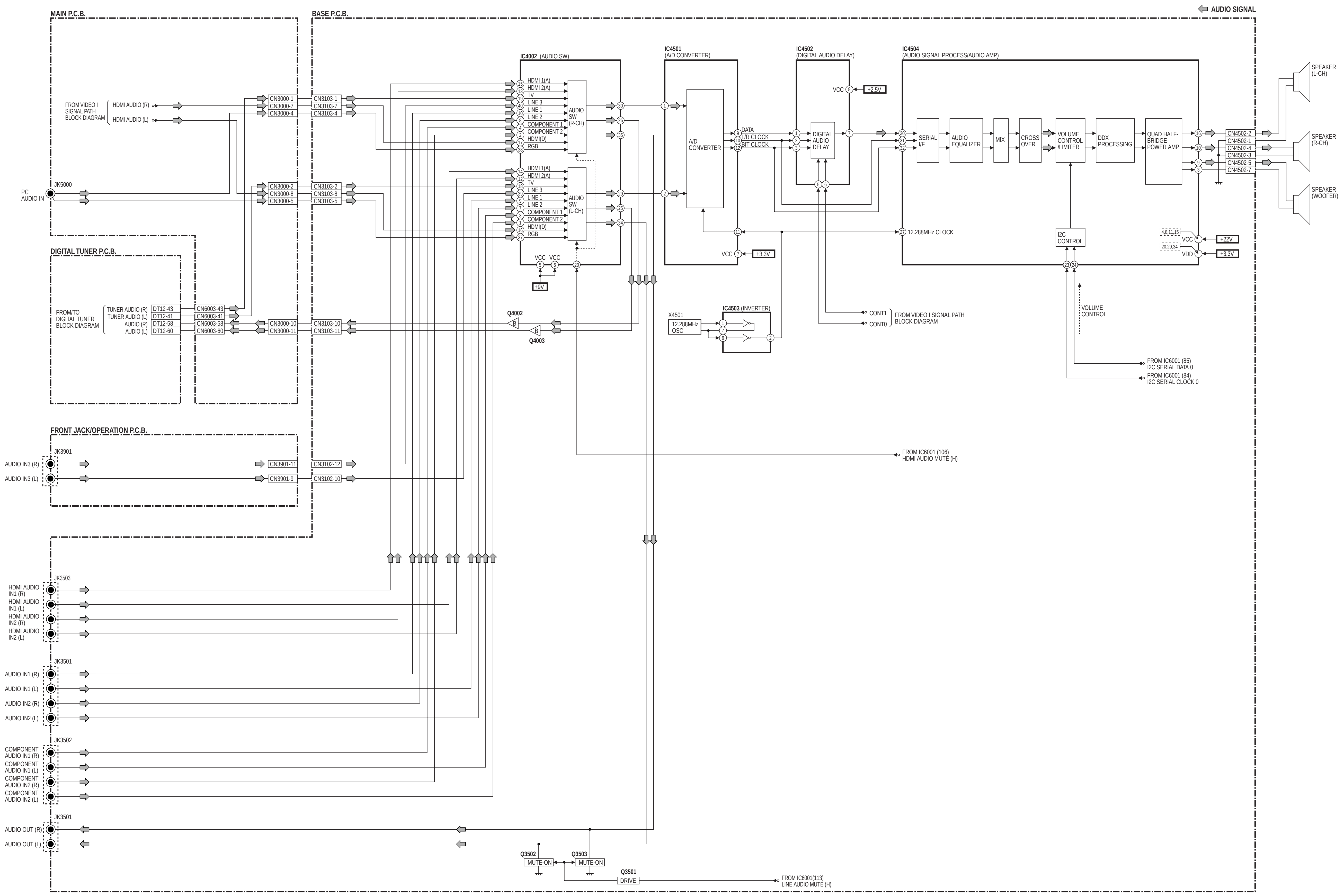

MAIN/SUB VIDEO SIGNAL
MAIN VIDEO SIGNAL
SUB VIDEO SIGNAL
IC5001 (DIGITAL VIDEO SIGNAL PROCESS)
IC5017 (8M BOOT SECTOR FLASH MEMORY)
8M BOOT SECTOR FLASH MEMORY
DATA BUS(16bit)
IC5016 (LVDS TRANSMITTER)
MEMORY INTERFACE
PC-IN:RGB DATA (24BIT) / W/O PC-IN:YUV DATAA (20BIT)
MAIN SIGNAL PATH
V-SYNC
H-SYNC
CLOCK
CLOCK
FOR MAIN SIGNAL
IC5011 (CLOCK GENERATOR)
+3.3V
VCC
VCC
PLL
X5000
27MHz OSC
VCO
CLOCK(95MHz)
CLOCK(108MHz)
CLOCK(74.25MHz)
R DATA (10BIT)
G DATA (10BIT)
B DATA (10BIT)
H-SYNC
V-SYNC
CLOCK(75.26MHz)
OSD-CLOCK
OSD H-SYNC
OSD H-SYNC
OSD V-SYNC
OSD-YM
OSD-YS
OSD-CLOCK
FROM/TO SYSTEM CONTROL BLOCK DIAGRAM
OSD-R DATA (0-4)
OSD-G DATA (0-5)
OSD-B DATA (0-4)
• IP CONVERTER
480i ---> 720p
480p ---> 720p
720P ---> 720p
1080i ---> 720p
(W/O ASPECT FULL MODE)
1080i ---> 1080i
(W/ASPECT FULL MODE)
• MULTI WINDOW
(SPLIT SCREEN)
• OSD MIX
SUB/HDMI SIGNAL PATH
SUB:Y DATA (8BIT) / HDMI Y DATA (10BIT)
SUB:UV DATA (8BIT) / HDMI UV DATA (10BIT)
V-SYNC
H-SYNC
CLOCK
CLOCK
WRITE PROTECT
FOR HDMI SIGNAL
MODE | FREQUENCY
(480i)/480p | 27MHz
720p/1080i | 74.25MHz
DIGITAL TUNER/SD CARD/OSD SIGNAL PATH
DTV Y DATA (8BIT)
DTV UV DATA (8BIT)
V-SYNC
H-SYNC
CLOCK
OSD V-SYNC
OSD H-SYNC
FOR DTV/SD CARD/OSD SIGNAL
+1.2V
L5006
VDD
+2.6V
L5005
VCC
+3.3V
L5007
AVD
L5004
AVD
IC5004
+2.5V
+1.2V REG.
R5090
VDDI
IC5010
+1.2V REG.
VCC
GC4PRO
HDMI Y DATA (10BIT)
HDMI UV DATA (10BIT)
V-SYNC
H-SYNC
HDMI CLOCK
• LVDS TRANS.
• I/P CONVERTER
(1080i ---> 1080p)
(720p ---> 1080p)
• OSD MIX(1080p)
CN5001-28 LVDS DATA A1(+)
CN5001-29 LVDS DATA A1(-)
CN5001-25 LVDS DATA B1(+)
CN5001-26 LVDS DATA B1(-)
CN5001-22 LVDS DATA C1(+)
CN5001-23 LVDS DATA C1(-)
CN5001-16 LVDS DATA D1(+)
CN5001-17 LVDS DATA D1(-)
CN5001-19 LVDS CLOCK1(+)
CN5001-20 LVDS CLOCK1(-)
CN5001-13 LVDS DATA A2(+)
CN5001-14 LVDS DATA A2(-)
CN5001-10 LVDS DATA B2(+)
CN5001-11 LVDS DATA B2(-)
CN5001-7 LVDS DATA C2(+)
CN5001-8 LVDS DATA C2(-)
CN5001-1 LVDS DATA D2(+)
CN5001-2 LVDS DATA D2(-)
CN5001-4 LVDS CLOCK2(+)
CN5001-5 LVDS CLOCK2(-)
TO VIDEO SIGNAL PATH II BLOCK DIAGRAM (CN2002)
IC5018
VDD18
+1.8V REG.
+2.5V
VDD33
+3.3V
IC5019
VDD25
+2.6V REG.
+3.3V
IC5021
RESET(L)
RESET
+1.8V
MEMORY INTERFACE
IC5020,IC5023 (128M DDR MEMORY)
DATA BUS(32bit)
128M DDR MEMORY
<CLOCK(129MHz)>
DATA BUS(32BIT)
IC5002 (128M GDDR SDRAM)
<FOR IP COVERTER, MULTI WINDOW, 3D Y/C SEPARATION, ETC>
64M MEMORY
IC5003
VCC
+2.6V REG.
+3.3V
1080p

VIDEO SIGNAL PATH II BLOCK DIAGRAM


DMD DRIVE P.C.B.
IC2004 (LVDS RECEIVER)
IC2008 (DMD CONTROL)
IC2021 (MOTOR DRIVER)
FROM VIDEO SIGNAL PATH I BLOCK DIAGRAM (CN5001)
LVDS DATA A1(+) CN2002-28
LVDS DATA A1(-) CN2002-29
LVDS DATA B1(+) CN2002-25
LVDS DATA B1(-) CN2002-26
LVDS DATA C1(+) CN2002-22
LVDS DATA C1(-) CN2002-23
LVDS DATA D1(+) CN2002-16
LVDS DATA D1(-) CN2002-17
LVDS CLOCK1(+) CN2002-19
LVDS CLOCK1(-) CN2002-20
LVDS DATA A2(+) CN2002-13
LVDS DATA A2(-) CN2002-14
LVDS DATA B2(+) CN2002-10
LVDS DATA B2(-) CN2002-11
LVDS DATA C2(+) CN2002-7
LVDS DATA C2(-) CN2002-8
LVDS DATA D2(+) CN2002-1
LVDS DATA D2(-) CN2002-2
LVDS CLOCK2(+) CN2002-4
LVDS CLOCK2(-) CN2002-5
LVDS SERIAL TO TTL PARALLEL CONVERTER
PLL
DEMUX
R DATA (8BIT)
G DATA (8BIT)
B DATA (8BIT)
H-SYNC
V-SYNC
DATA ENABLE(H)
VIDEO-GRAPHICS PROCESSOR
FORMATTER
CLOCK(76 MHz)
IC2005(INVERTER)
CLOCK(76 MHz)
CS(L)
RESET(L)
CLOCK
CW PWM
SERIAL INTERFACE
CONTROL LOGIC
MOTOR DRIVE
MUX
VBB
+12V
CN2000-1
CN2000-2
CN2000-3
CN2000-4
IC2022 (BUFFER)
IC2023 (DMD)
RESET(L)
LVDS A DATA (0-15)
LVDS B DATA (0-15)
CLOCK CONTROL
MOTOR
COLOR WHEEL
IC2007 (8M FLASH MEMORY)
8M FLASH MEMORY
VCC +3.3V
DATA BUS(16BIT)
PARALLEL FLASH INTERFACE
OUTPUT ENABLE(L)
WRITE ENABLE(L)
CS(L)
RESET(L)
POWER GOOD(H)
IC2009 (288M RLDRAM)
288M RLDRAM
DATA BUS(32BIT)
VCC +2.5V
VCC +1.8V
VCC +1.5V
VCC RLD_VTT
VCC RLD_VREF
IC2010 (CLOCK GENERATOR)
X2000 25MHz OSC
OSC
PLL
VDD +3.3V
MASTER CLOCK(50MHz)
VCC(+3.3V)
VCC(+2.5V)
VCC(+1.5V)
VCC(+0.75V)
VCC(+0.75V)
IC2001 (RESET)
VCC(+12V)
+27V OUT
+27V IN
-27V OUT
-27V IN
+8V OUT
+8V IN
VCC
VCC2
SERIAL DATA 0
SERIAL DATA 1
SERIAL CLOCK
ENABLE(L)
IRQ
ADDRESS 0
ADDRESS 1
ADDRESS 2
ADDRESS 3
STROBE
OE(L)
SELECT 0
SELECT 1
MODE 0
MODE 1
SERIAL INTERFACE
PHASED RESET DRIVE
RESET 0
RESET 1
RESET 2
RESET 3
RESET 4
RESET 5
RESET 6
RESET 7
RESET 8
RESET 9
RESET 10
RESET 11
RESET 12
RESET 13
RESET 14
RESET 15
CW INDEX
IC2020 (BUFFER)
CN2006-3
SPC DATA(0-7)
IC2002 (TRANSCEIVER)
TRANSCEIVER
IC2014 (D/A CONVERTER)
D/A CONVERTER
CN2004-1
COLOR WHEEL P.C.B.
IC6901
PHOTO SENSOR
IC6902 (OP AMP)
IC6903 (COMPARATOR)
V-REF
VCC
+5V
CN6901-3
SMOOTH PICTURE ACTUATOR

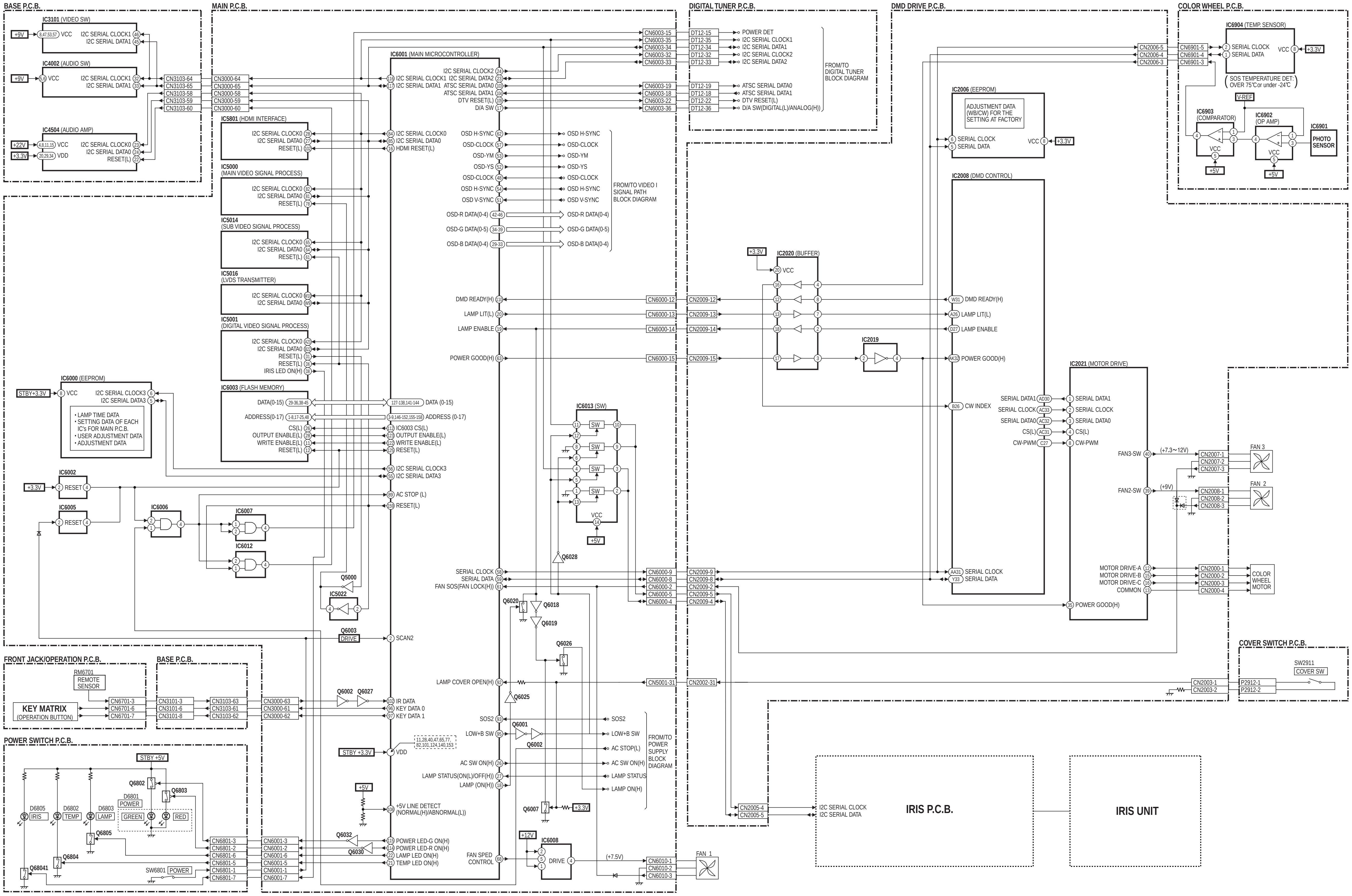
VIDEO SIGNAL PATH II BLOCK DIAGRAM
PT-56DLX76/PT-61DLX76/PT-61DLX26

AUDIO SIGNAL PATH BLOCK DIAGRAM


AUDIO SIGNAL
MAIN P.C.B.
BASE P.C.B.
DIGITAL TUNER P.C.B.
FRONT JACK/OPERATION P.C.B.
FROM VIDEO I SIGNAL PATH BLOCK DIAGRAM
HDMI AUDIO (R)
HDMI AUDIO (L)
PC AUDIO IN
JK5000
CN3000-1
CN3000-7
CN3000-4
CN3000-2
CN3000-8
CN3000-5
CN3103-1
CN3103-7
CN3103-4
CN3103-2
CN3103-8
CN3103-5
FROM/TO DIGITAL TUNER BLOCK DIAGRAM
TUNER AUDIO (R)
TUNER AUDIO (L)
AUDIO (R)
AUDIO (L)
DT12-43
DT12-41
DT12-58
DT12-60
CN6003-43
CN6003-41
CN6003-58
CN6003-60
CN3000-10
CN3000-11
CN3103-10
CN3103-11
IC4002 (AUDIO SW)
HDMI 1(A)
HDMI 2(A)
TV
LINE 3
LINE 1
LINE 2
COMPONENT 1
COMPONENT 2
HDMI(D)
RGB
AUDIO SW (R-CH)
AUDIO SW (L-CH)
VCC
+9V
Q4002
Q4003
IC4501 (A/D CONVERTER)
A/D CONVERTER
DATA
L/R CLOCK
BIT CLOCK
+3.3V
IC4502 (DIGITAL AUDIO DELAY)
DIGITAL AUDIO DELAY
+2.5V
IC4504 (AUDIO SIGNAL PROCESS/AUDIO AMP)
SERIAL I/F
AUDIO EQUALIZER
MIX
CROSS OVER
VOLUME CONTROL /LIMITER
DDX PROCESSING
QUAD HALF-BRIDGE POWER AMP
12.288MHz CLOCK
I2C CONTROL
VDD
+22V
4,8,11,15
20,29,34
CN4502-2
CN4502-1
CN4502-4
CN4502-3
CN4502-5
CN4502-7
SPEAKER (L-CH)
SPEAKER (R-CH)
SPEAKER (WOOFER)
X4501
12.288MHz OSC
IC4503 (INVERTER)
CONT1
CONT0
FROM VIDEO I SIGNAL PATH BLOCK DIAGRAM
VOLUME CONTROL
FROM IC6001 (85) I2C SERIAL DATA 0
FROM IC6001 (84) I2C SERIAL CLOCK 0
FROM IC6001 (106) HDMI AUDIO MUTE (H)
JK3901
AUDIO IN3 (R)
AUDIO IN3 (L)
CN3901-11
CN3901-9
CN3102-12
CN3102-10
JK3503
HDMI AUDIO IN1 (R)
HDMI AUDIO IN1 (L)
HDMI AUDIO IN2 (R)
HDMI AUDIO IN2 (L)
JK3501
AUDIO IN1 (R)
AUDIO IN1 (L)
AUDIO IN2 (R)
AUDIO IN2 (L)
JK3502
COMPONENT AUDIO IN1 (R)
COMPONENT AUDIO IN1 (L)
COMPONENT AUDIO IN2 (R)
COMPONENT AUDIO IN2 (L)
JK3501
AUDIO OUT (R)
AUDIO OUT (L)
Q3502
MUTE-ON
Q3503
MUTE-ON
Q3501
DRIVE
FROM IC6001(113) LINE AUDIO MUTE (H)

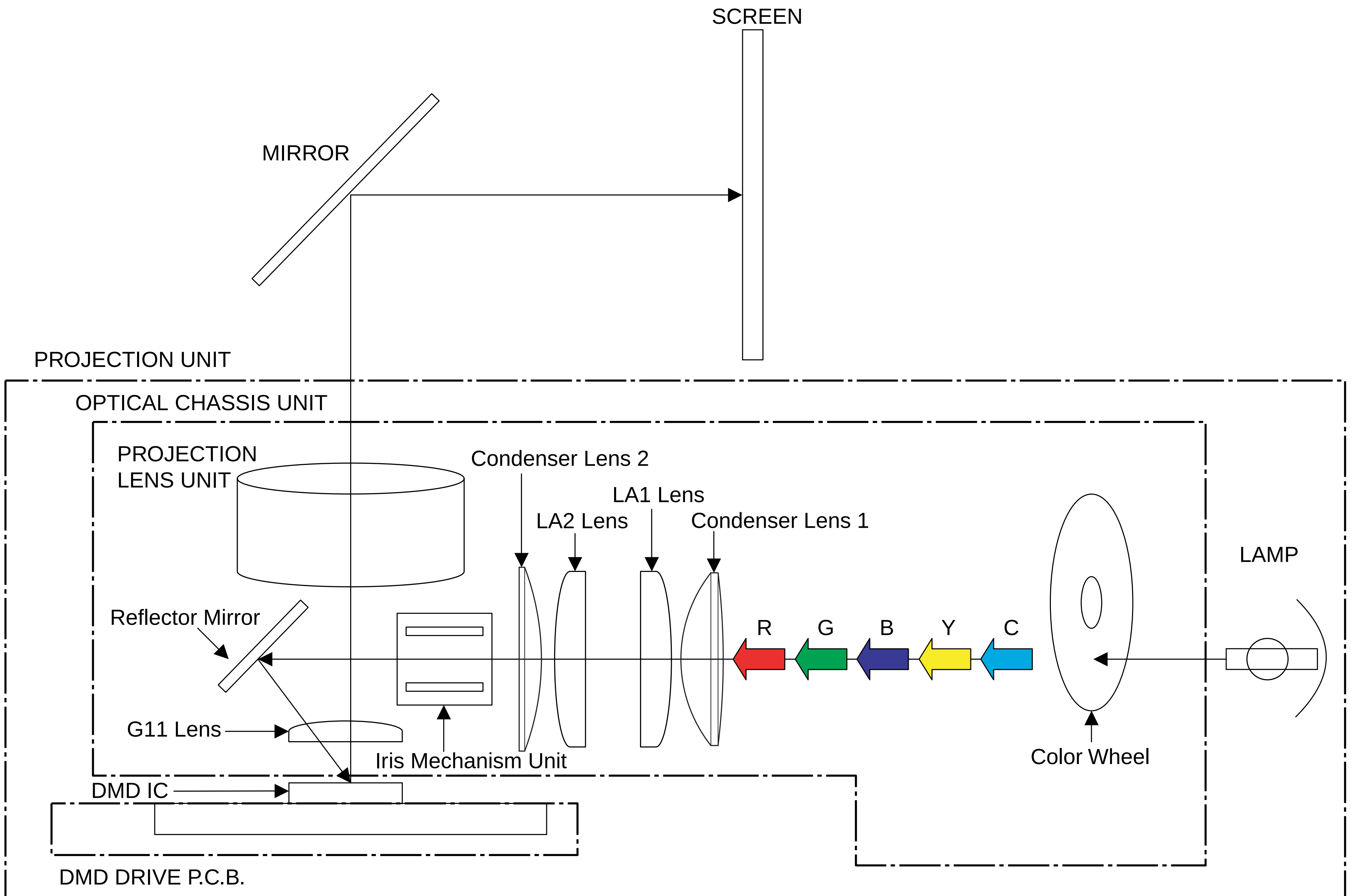
AUDIO SIGNAL PATH BLOCK DIAGRAM
PT-56DLX76/PT-61DLX76/PT-61DLX26

SYSTEM CONTROL BLOCK DIAGRAM


BASE P.C.B.
IC3101 (VIDEO SW)
+9V
VCC
I2C SERIAL CLOCK1
I2C SERIAL DATA1
IC4002 (AUDIO SW)
IC4504 (AUDIO AMP)
+22V
+3.3V
VDD
I2C SERIAL CLOCK0
I2C SERIAL DATA0
RESET(L)
MAIN P.C.B.
IC6001 (MAIN MICROCONTROLLER)
IC5801 (HDMI INTERFACE)
IC5000 (MAIN VIDEO SIGNAL PROCESS)
IC5014 (SUB VIDEO SIGNAL PROCESS)
IC5016 (LVDS TRANSMITTER)
IC5001 (DIGITAL VIDEO SIGNAL PROCESS)
IRIS LED ON(H)
IC6003 (FLASH MEMORY)
DATA(0-15)
ADDRESS(0-17)
CS(L)
OUTPUT ENABLE(L)
WRITE ENABLE(L)
IC6000 (EEPROM)
STBY+3.3V
I2C SERIAL CLOCK3
I2C SERIAL DATA3
• LAMP TIME DATA
• SETTING DATA OF EACH IC's FOR MAIN P.C.B.
• USER ADJUSTMENT DATA
• ADJUSTMENT DATA
IC6002
IC6005
IC6006
IC6007
IC6012
Q5000
IC5022
Q6003
DRIVE
SCAN2
AC STOP (L)
I2C SERIAL CLOCK2
I2C SERIAL DATA2
ATSC SERIAL DATA0
ATSC SERIAL DATA1
DTV RESET(L)
D/A SW
HDMI RESET(L)
OSD H-SYNC
OSD-CLOCK
OSD-YM
OSD-YS
OSD V-SYNC
OSD-R DATA(0-4)
OSD-G DATA(0-5)
OSD-B DATA(0-4)
FROM/TO VIDEO I SIGNAL PATH BLOCK DIAGRAM
DMD READY(H)
LAMP LIT(L)
LAMP ENABLE
POWER GOOD(H)
IC6013 (SW)
+5V
Q6028
SERIAL CLOCK
SERIAL DATA
FAN SOS(FAN LOCK(H))
Q6020
Q6018
Q6019
Q6026
LAMP COVER OPEN(H)
Q6025
SOS2
LOW+B SW
Q6001
Q6002
AC SW ON(H)
LAMP STATUS(ON(L)/OFF(H))
LAMP (ON(H))
AC STOP(L)
FROM/TO POWER SUPPLY BLOCK DIAGRAM
Q6007
+3.3V
+12V
IC6008
DRIVE
FAN SPED CONTROL
(+7.5V)
FAN 1
IR DATA
KEY DATA 0
KEY DATA 1
Q6027
VDD
STBY +3.3V
+5V LINE DETECT (NORMAL(H)/ABNORMAL(L))
POWER LED-G ON(H)
POWER LED-R ON(H)
LAMP LED ON(H)
TEMP LED ON(H)
Q6032
Q6030
FRONT JACK/OPERATION P.C.B.
RM6701
REMOTE SENSOR
KEY MATRIX
(OPERATION BUTTON)
POWER SWITCH P.C.B.
STBY +5V
Q6802
Q6803
D6801
POWER
D6805
IRIS
D6802
TEMP
D6803
LAMP
GREEN
RED
Q6805
Q6804
Q68041
SW6801
DIGITAL TUNER P.C.B.
POWER DET
D/A SW(DIGITAL(L)/ANALOG(H))
FROM/TO DIGITAL TUNER BLOCK DIAGRAM
DMD DRIVE P.C.B.
IC2006 (EEPROM)
ADJUSTMENT DATA (WB/CW) FOR THE SETTING AT FACTORY
IC2008 (DMD CONTROL)
IC2020 (BUFFER)
IC2019
CW INDEX
IC2021 (MOTOR DRIVE)
CW-PWM
FAN3-SW
(+7.3~12V)
FAN 3
FAN2-SW
(+9V)
FAN 2
MOTOR DRIVE-A
MOTOR DRIVE-B
MOTOR DRIVE-C
COMMON
COLOR WHEEL MOTOR
COLOR WHEEL P.C.B.
IC6904 (TEMP SENSOR)
SOS TEMPERATURE DET: OVER 75°C or under -24°C
V-REF
IC6903 (COMPARATOR)
IC6902 (OP AMP)
IC6901
PHOTO SENSOR
+5V
COVER SWITCH P.C.B.
SW2911
COVER SW
IRIS P.C.B.
I2C SERIAL CLOCK
I2C SERIAL DATA
IRIS UNIT

SYSTEM CONTROL BLOCK DIAGRAM
PT-56DLX76/PT-61DLX76/PT-61DLX26

OPTICAL BLOCK DIAGRAM


SCREEN
MIRROR
PROJECTION UNIT
OPTICAL CHASSIS UNIT
PROJECTION LENS UNIT
Condenser Lens 2
LA1 Lens
LA2 Lens
Condenser Lens 1
LAMP
Reflector Mirror
R
G
B
Y
C
G11 Lens
Iris Mechanism Unit
Color Wheel
DMD IC
DMD DRIVE P.C.B.

12 Schematic Diagrams

12.1. SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES

1. **Important safety notice**
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components. Use only the specified parts.

2. Do not use the part number shown on this drawing for ordering.
   The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

3. Use only original replacement parts:
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Parts different in shape or size may be used.
   However, only interchangeable parts will be supplied as service replacement parts.

5. Test point information
   ● : Test point with a jumper wire across a hole in P.C.B.
   ○ : Test point with no test pin.

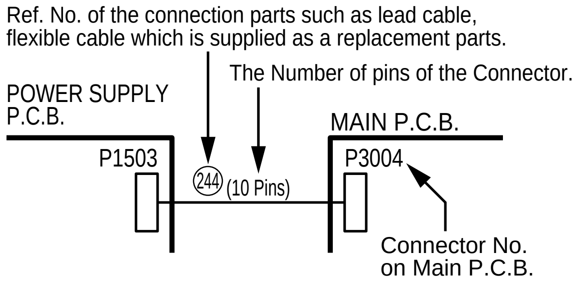
Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes
   The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

   Example:
   (6.2V)......Zener Voltage

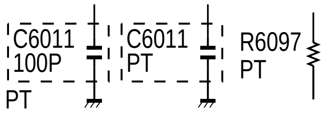
2. How to identify Connectors
   Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to,
   in other words, its counter part.
   Use the interconnection schematic diagram to find the connection between associated connectors.

   Example:
   The connections between P.C.B.s are shown below.


Ref. No. of the connection parts such as lead cable, flexible cable which is supplied as a replacement parts.
The Number of pins of the Connector.
POWER SUPPLY P.C.B.
MAIN P.C.B.
P1503
244
(10 Pins)
P3004
Connector No. on Main P.C.B.

3. Parts marked "PT" are not used in any models included in this service model.

   Example:


C6011
100P
PT
C6011
PT
R6097
PT

4. Jumper wires are used for WA10, WA5 etc and these are not supplied as replacement parts.

Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.
For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

NOTE:
Circuit Board Layout includes components which are not used.

12.2. INTERCONNECTION SCHEMATIC DIAGRAM

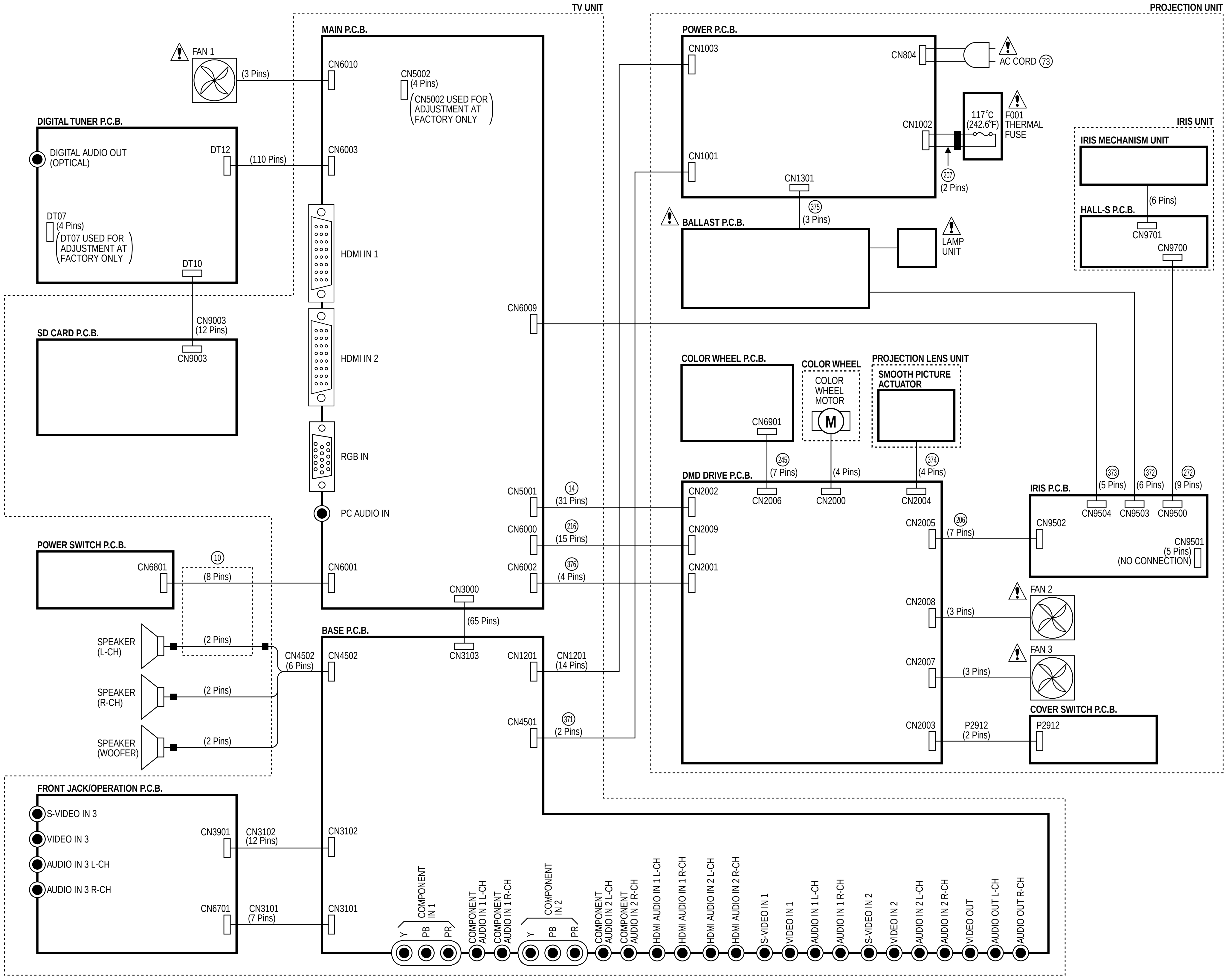
INTERCONNECTION SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.


TV UNIT
PROJECTION UNIT
MAIN P.C.B.
FAN 1
(3 Pins)
CN6010
CN5002
(4 Pins)
CN5002 USED FOR ADJUSTMENT AT FACTORY ONLY
DIGITAL TUNER P.C.B.
DIGITAL AUDIO OUT (OPTICAL)
DT12
(110 Pins)
CN6003
DT07
(4 Pins)
DT07 USED FOR ADJUSTMENT AT FACTORY ONLY
DT10
HDMI IN 1
HDMI IN 2
RGB IN
PC AUDIO IN
CN9003
(12 Pins)
SD CARD P.C.B.
CN9003
CN6009
CN5001
⑭
(31 Pins)
CN6000
216
(15 Pins)
CN6002
376
(4 Pins)
CN6001
CN3000
POWER SWITCH P.C.B.
CN6801
⑩
(8 Pins)
(65 Pins)
BASE P.C.B.
SPEAKER (L-CH)
(2 Pins)
CN4502
(6 Pins)
CN4502
CN3103
CN1201
CN1201
(14 Pins)
SPEAKER (R-CH)
(2 Pins)
CN4501
371
(2 Pins)
SPEAKER (WOOFER)
(2 Pins)
FRONT JACK/OPERATION P.C.B.
S-VIDEO IN 3
VIDEO IN 3
AUDIO IN 3 L-CH
AUDIO IN 3 R-CH
CN3901
CN3102
(12 Pins)
CN3102
CN6701
CN3101
(7 Pins)
CN3101
COMPONENT IN 1
Y
PB
PR
COMPONENT AUDIO IN 1 L-CH
COMPONENT AUDIO IN 1 R-CH
COMPONENT IN 2
Y
PB
PR
COMPONENT AUDIO IN 2 L-CH
COMPONENT AUDIO IN 2 R-CH
HDMI AUDIO IN 1 L-CH
HDMI AUDIO IN 1 R-CH
HDMI AUDIO IN 2 L-CH
HDMI AUDIO IN 2 R-CH
S-VIDEO IN 1
VIDEO IN 1
AUDIO IN 1 L-CH
AUDIO IN 1 R-CH
S-VIDEO IN 2
VIDEO IN 2
AUDIO IN 2 L-CH
AUDIO IN 2 R-CH
VIDEO OUT
AUDIO OUT L-CH
AUDIO OUT R-CH
POWER P.C.B.
CN1003
CN804
AC CORD ⑬
CN1002
117°C (242.6°F)
F001 THERMAL FUSE
207
(2 Pins)
CN1001
CN1301
375
(3 Pins)
BALLAST P.C.B.
LAMP UNIT
IRIS UNIT
IRIS MECHANISM UNIT
(6 Pins)
HALL-S P.C.B.
CN9701
CN9700
COLOR WHEEL P.C.B.
CN6901
COLOR WHEEL
COLOR WHEEL MOTOR
M
PROJECTION LENS UNIT
SMOOTH PICTURE ACTUATOR
245
(7 Pins)
(4 Pins)
374
(4 Pins)
DMD DRIVE P.C.B.
CN2002
CN2006
CN2000
CN2004
CN2009
CN2001
CN2005
206
(7 Pins)
373
(5 Pins)
372
(6 Pins)
272
(9 Pins)
IRIS P.C.B.
CN9504
CN9503
CN9500
CN9502
CN9501
(5 Pins)
(NO CONNECTION)
CN2008
(3 Pins)
FAN 2
CN2007
(3 Pins)
FAN 3
COVER SWITCH P.C.B.
CN2003
P2912
(2 Pins)
P2912

INTERCONNECTION SCHEMATIC DIAGRAM
PT-56DLX76/PT-61DLX76/PT-61DLX26

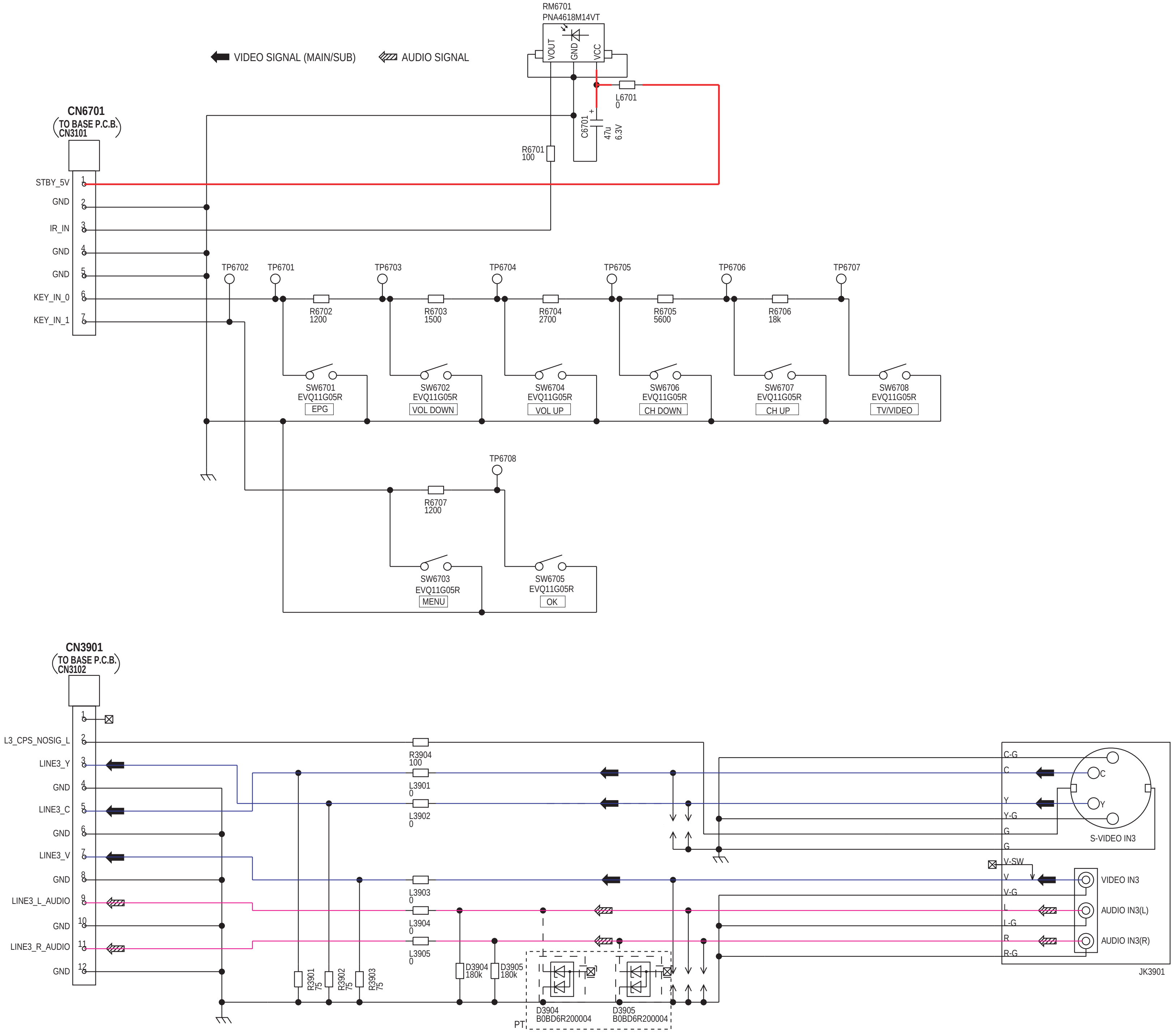
12.3. FRONT JACK / OPERATION SCHEMATIC DIAGRAM

FRONT JACK / OPERATION SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.


VIDEO SIGNAL (MAIN/SUB)
AUDIO SIGNAL
RM6701
PNA4618M14VT
VOUT
GND
VCC
L6701
0
C6701
47u
6.3V
R6701
100
CN6701
TO BASE P.C.B.
CN3101
STBY_5V
GND
IR_IN
GND
GND
KEY_IN_0
KEY_IN_1
TP6702
TP6701
TP6703
TP6704
TP6705
TP6706
TP6707
R6702
1200
R6703
1500
R6704
2700
R6705
5600
R6706
18k
SW6701
EVQ11G05R
EPG
SW6702
EVQ11G05R
VOL DOWN
SW6704
EVQ11G05R
VOL UP
SW6706
EVQ11G05R
CH DOWN
SW6707
EVQ11G05R
CH UP
SW6708
EVQ11G05R
TV/VIDEO
TP6708
R6707
1200
SW6703
EVQ11G05R
MENU
SW6705
EVQ11G05R
OK
CN3901
TO BASE P.C.B.
CN3102
L3_CPS_NOSIG_L
LINE3_Y
GND
LINE3_C
GND
LINE3_V
GND
LINE3_L_AUDIO
GND
LINE3_R_AUDIO
GND
R3904
100
L3901
0
L3902
0
L3903
0
L3904
0
L3905
0
R3901
75
R3902
75
R3903
75
D3904
180k
D3905
180k
D3904
B0BD6R200004
D3905
B0BD6R200004
PT
C-G
C
Y
Y-G
G
G
V-SW
V
V-G
L
L-G
R
R-G
S-VIDEO IN3
VIDEO IN3
AUDIO IN3(L)
AUDIO IN3(R)
JK3901

LSJB3200
FRONT JACK / OPERATION SCHEMATIC DIAGRAM
PT-56DLX76/PT-61DLX76/PT-61DLX26

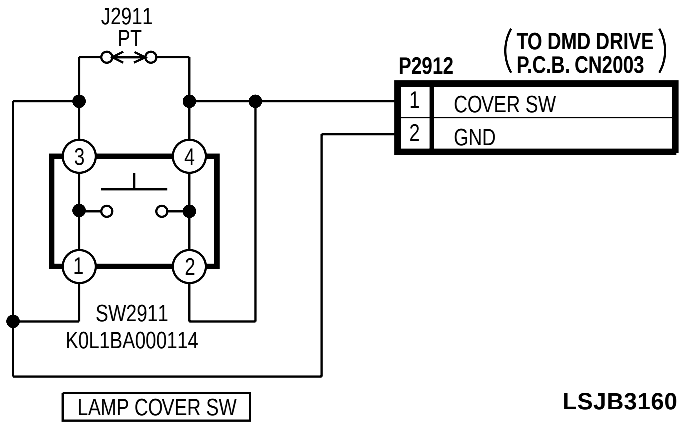
12.4. COVER SWITCH / POWER SWITCH SCHEMATIC DIAGRAMS

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

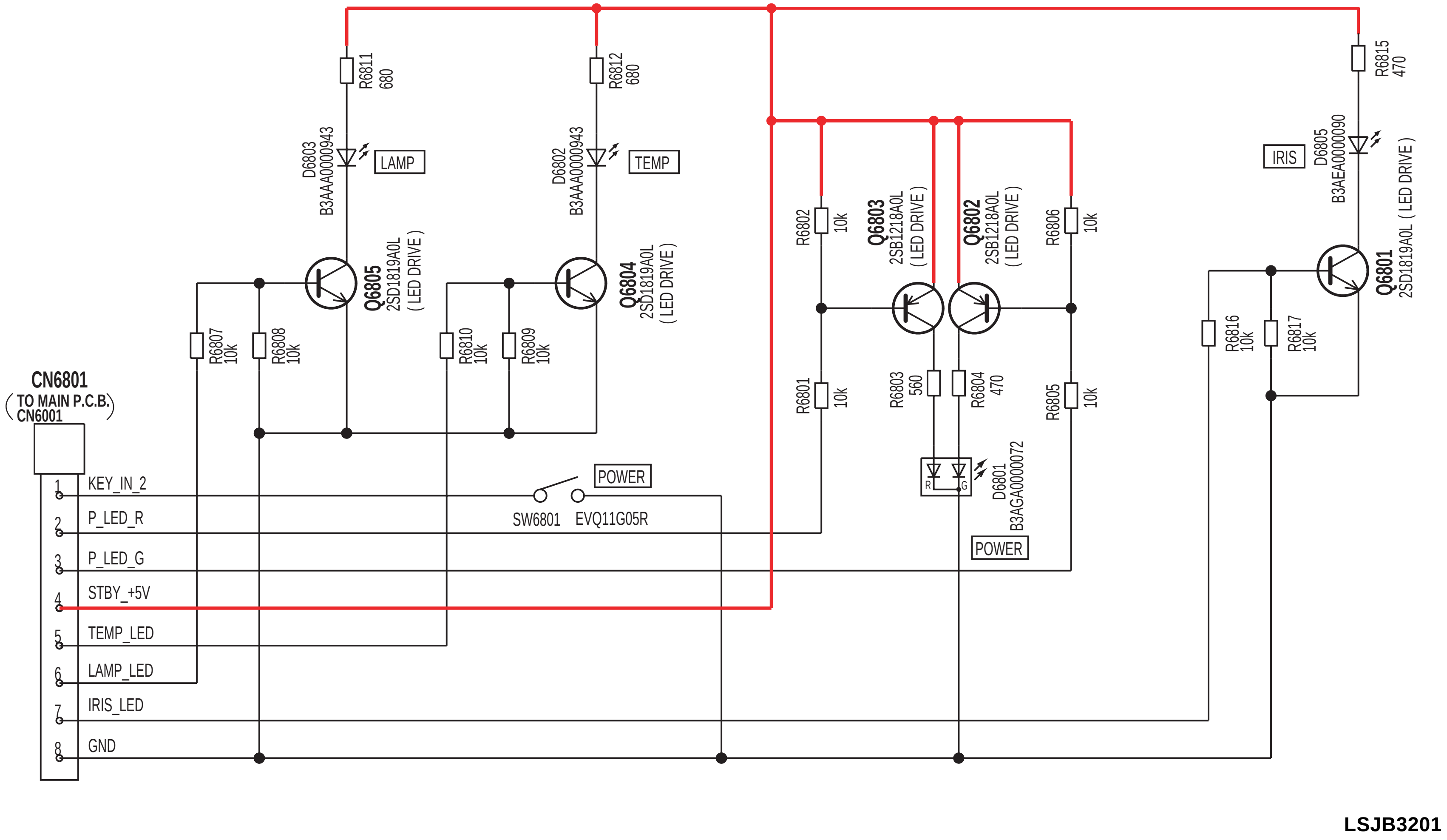
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

COVER SWITCH SCHEMATIC DIAGRAM


J2911
PT
P2912
TO DMD DRIVE
P.C.B. CN2003
1 COVER SW
2 GND
3
4
1
2
SW2911
K0L1BA000114
LAMP COVER SW
LSJB3160

POWER SWITCH SCHEMATIC DIAGRAM


R6811
680
R6812
680
R6815
470
D6803
B3AAA0000943
LAMP
D6802
B3AAA0000943
TEMP
IRIS
D6805
B3AEA0000090
Q6805
2SD1819A0L
(LED DRIVE)
Q6804
2SD1819A0L
(LED DRIVE)
Q6803
2SB1218A0L
(LED DRIVE)
Q6802
2SB1218A0L
(LED DRIVE)
Q6801
2SD1819A0L (LED DRIVE)
R6802
10k
R6806
10k
R6801
10k
R6803
560
R6804
470
R6805
10k
R6807
10k
R6808
10k
R6810
10k
R6809
10k
R6816
10k
R6817
10k
CN6801
TO MAIN P.C.B.
CN6001
1 KEY_IN_2
2 P_LED_R
3 P_LED_G
4 STBY_+5V
5 TEMP_LED
6 LAMP_LED
7 IRIS_LED
8 GND
POWER
SW6801 EVQ11G05R
R
G
D6801
B3AGA0000072
POWER
LSJB3201

LINK TO VOLTAGE CHART

COVER SWITCH SCHEMATIC DIAGRAM

POVER SWITCH SCHEMATIC DIAGRAM

PT-56DLX76/PT-61DLX76/PT-61DLX26

12.5. VOLTAGE CHART

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

POWER SWITCH P.C.B.

PIN NO.	VOLTAGE
Q6801	
E	0
C	0
B	0.7
Q6802	
E	5.0
C	4.9
B	4.3
Q6803	
E	5.0
C	-14.2
B	5.0
Q6804	
E	0
C	14.8
B	0
Q6805	
E	0
C	12.9
B	0
CN6801	
1	3.2
2	5.0
3	0.1
4	5.0
5	0
6	0
7	3.3
8	0

13 Printed Circuit Board

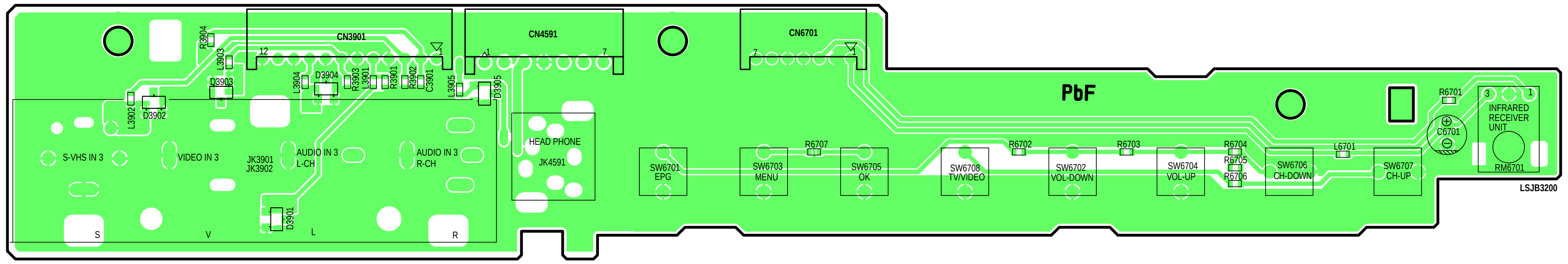
13.1. FRONT JACK/OPERATION P.C.B. / POWER SWITCH P.C.B. / COVER SWITCH P.C.B.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

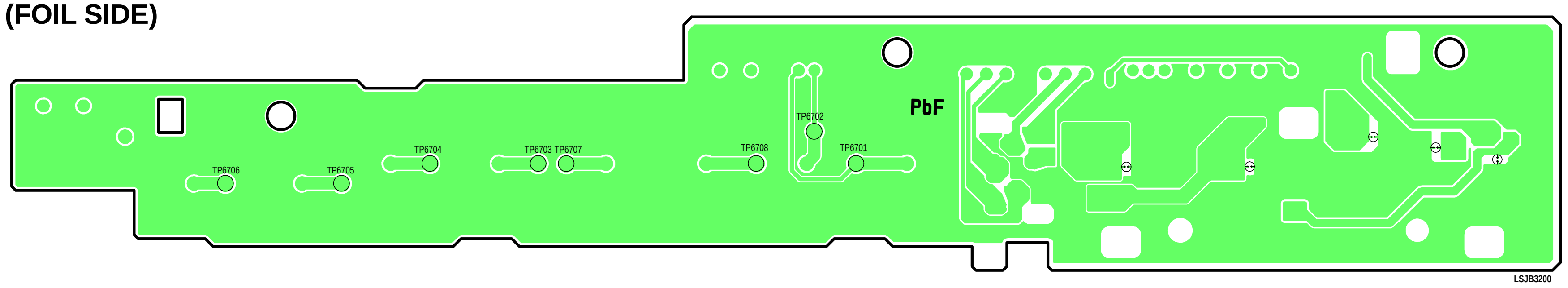
FRONT JACK / OPERATION P.C.B. LSEP3200B

(COMPONENT SIDE)


CN3901
CN4591
CN6701
PbF
D3902
D3903
D3904
D3905
D3901
S-VHS IN 3
VIDEO IN 3
JK3901
JK3902
AUDIO IN 3
L-CH
AUDIO IN 3
R-CH
HEAD PHONE
JK4591
SW6701
EPG
SW6703
MENU
R6707
SW6705
OK
SW6708
TV/VIDEO
R6702
SW6702
VOL-DOWN
R6703
SW6704
VOL-UP
R6704
R6705
R6706
SW6706
CH-DOWN
L6701
SW6707
CH-UP
R6701
C6701
INFRARED
RECEIVER
UNIT
RM6701
LSJB3200
S
V
L
R

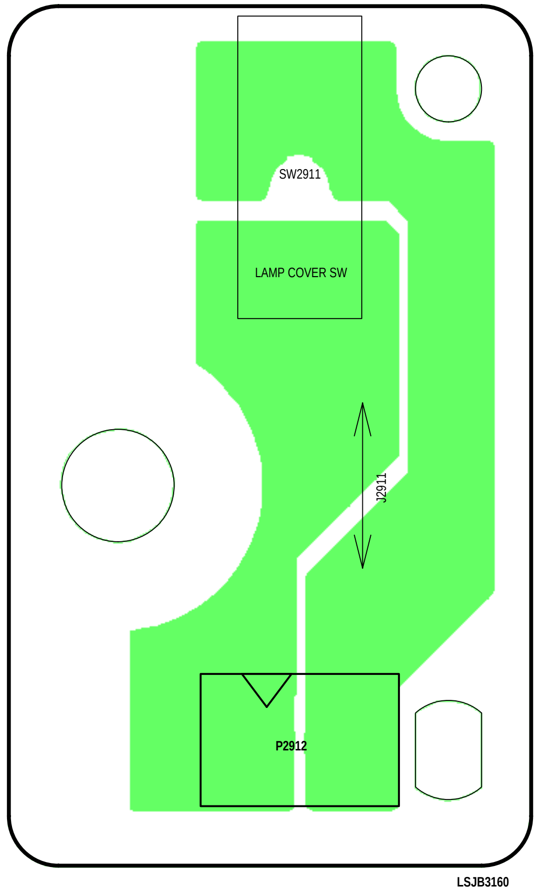
(DUAL PATTERNS)

(FOIL SIDE)

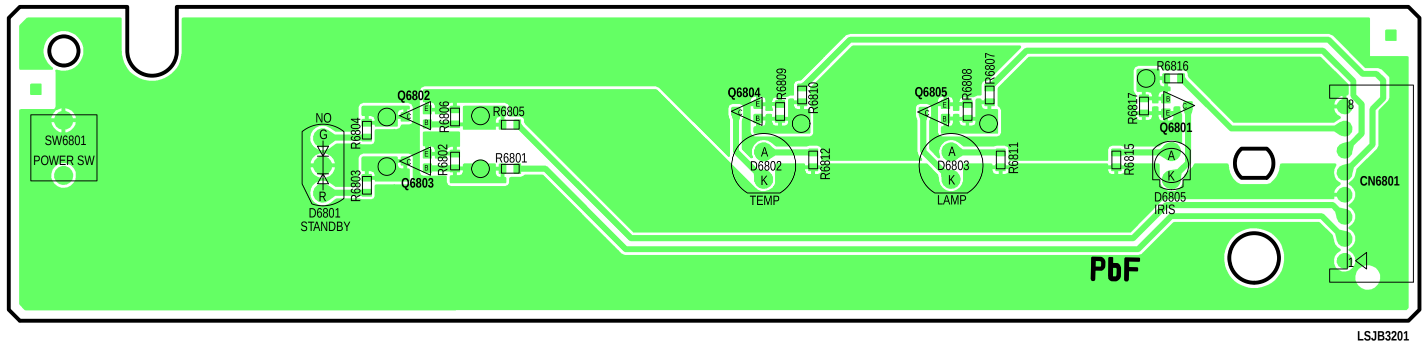

PbF
TP6706
TP6705
TP6704
TP6703
TP6707
TP6708
TP6702
TP6701
LSJB3200

(DUAL PATTERNS)

COVER SWITCH P.C.B. LSEP3160C


SW2911
LAMP COVER SW
J2911
P2912
LSJB3160

POWER SWITCH P.C.B. LSEP3201B


SW6801
POWER SW
NO
D6801
STANDBY
R6804
R6803
Q6802
Q6803
R6806
R6802
R6805
R6801
Q6804
R6809
R6810
D6802
TEMP
R6812
Q6805
R6808
R6807
D6803
LAMP
R6811
R6816
R6817
Q6801
R6815
D6805
IRIS
CN6801
PbF
LSJB3201

FRONT JACK / OPERATION P.C.B. LSEP3200B
POWER SWITCH P.C.B. LSEP3201B
COVER SWITCH P.C.B. LSEP3160C
PT-56DLX76/PT-61DLX76/PT-61DLX26

14 Exploded Views

14.1. MAIN PARTS SECTION

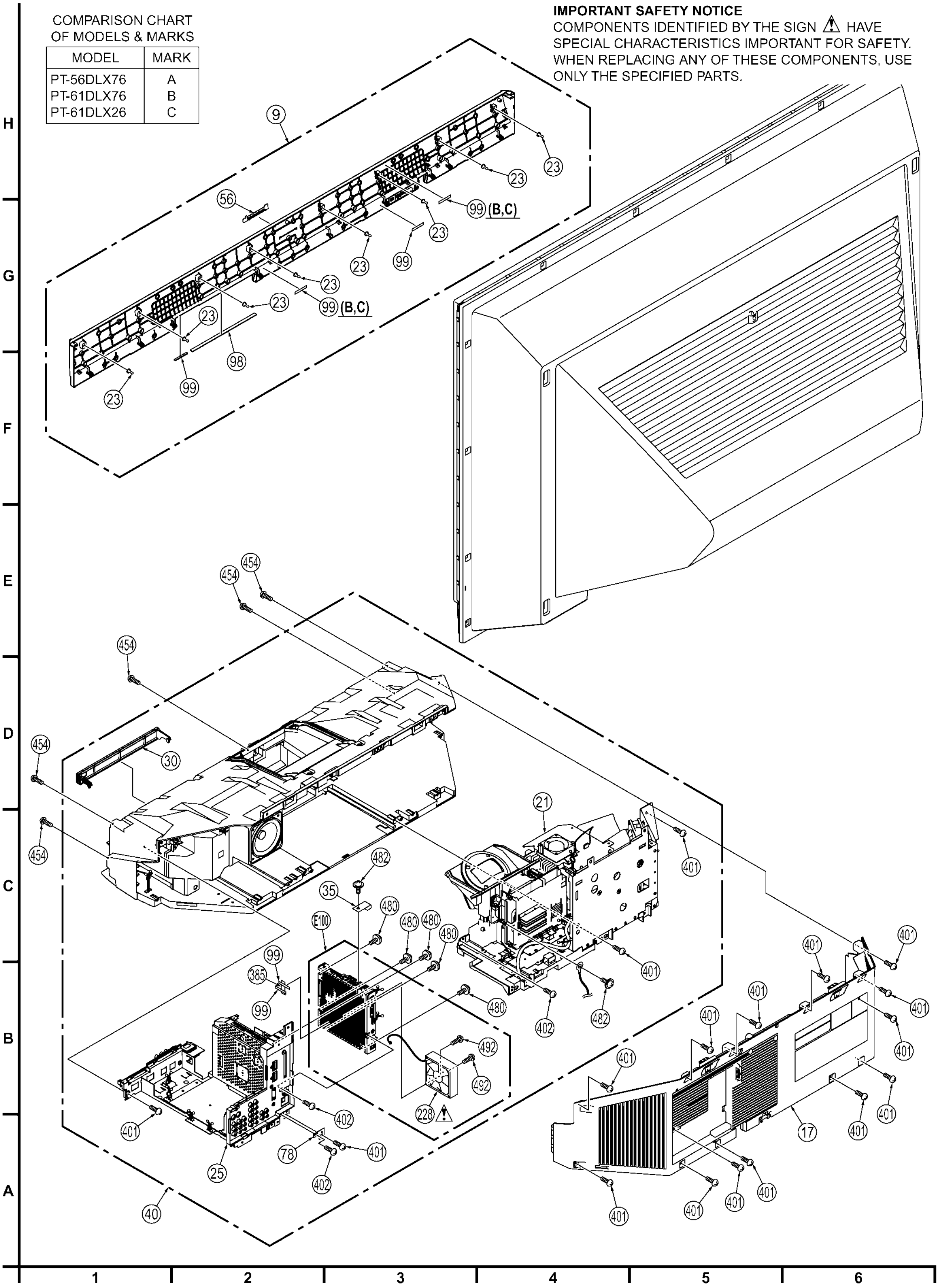
❶ MAIN PARTS SECTION

Note: Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

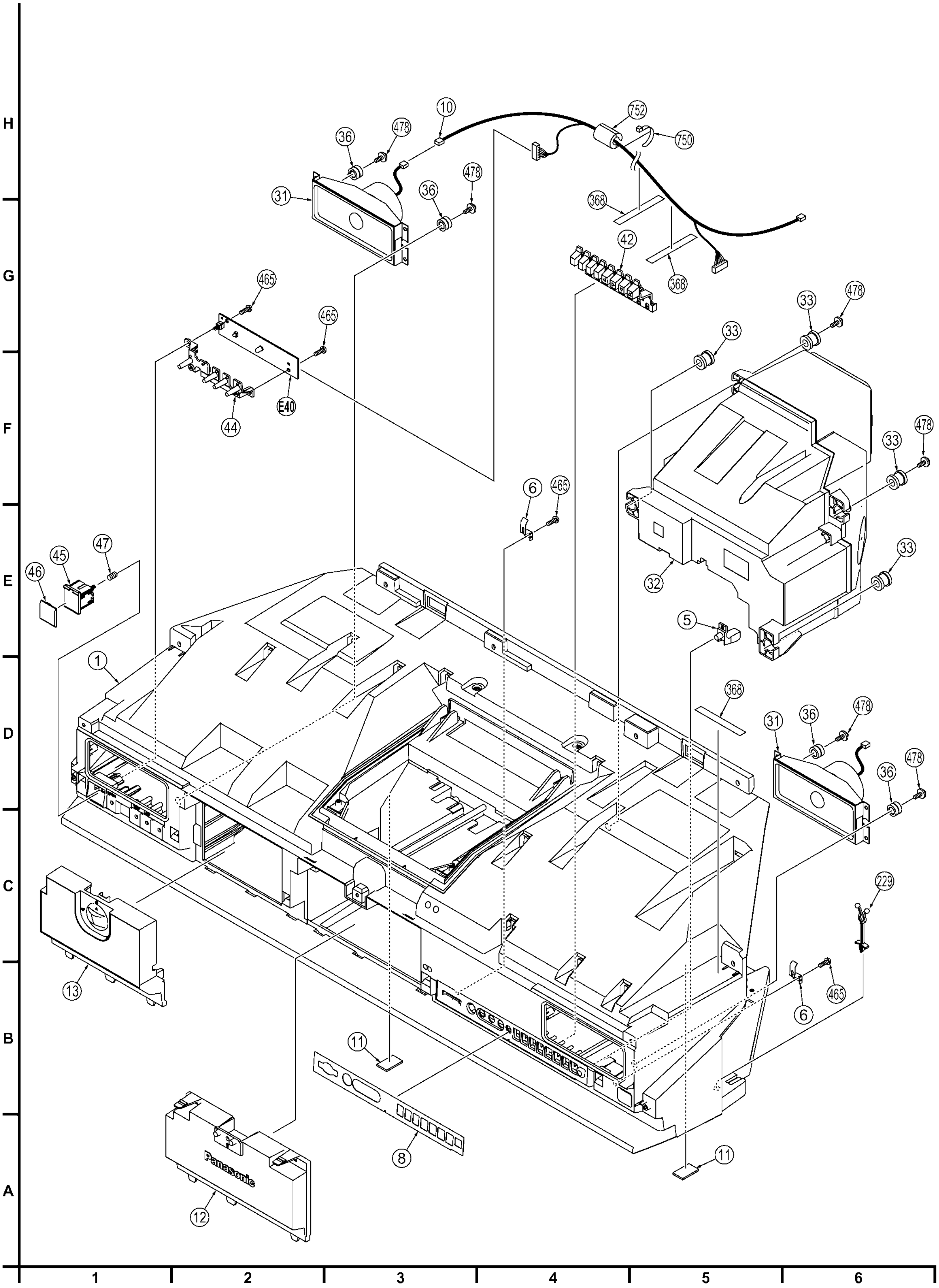
COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-56DLX76	A
PT-61DLX76	B
PT-61DLX26	C


H
G
F
E
D
C
B
A
9
23
23
56
99 (B,C)
23
99
23
23
23
99 (B,C)
23
98
99
23
454
454
454
454
30
454
21
401
482
35
480
480
480
480
E100
99
385
99
401
482
402
480
492
492
228 ⚠
401
402
78
401
402
25
40
401
401
401
401
401
401
401
17
401
401
401
401
401
1
2
3
4
5
6

14.2. BASE BODY SECTION

❷ BASE BODY SECTION

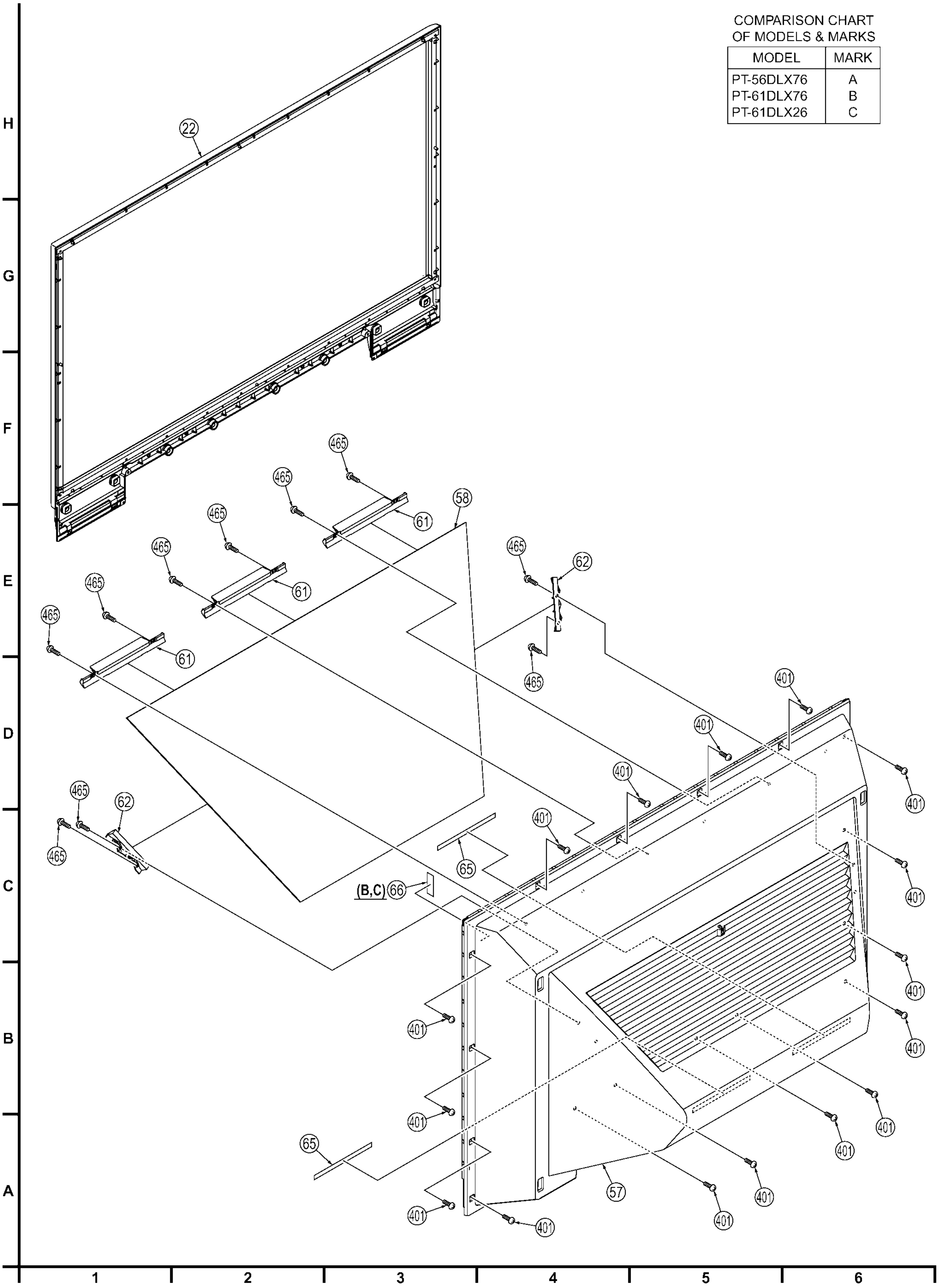

H
G
F
E
D
C
B
A
1
2
3
4
5
6
10
752
36
478
750
31
36
478
368
42
368
465
465
E40
44
33
478
33
478
33
6
465
47
45
46
32
33
1
5
368
31
36
478
36
478
229
13
6
465
11
8
11
12
Panasonic

14.3. DISPLAY SECTION

❸ DISPLAY SECTION

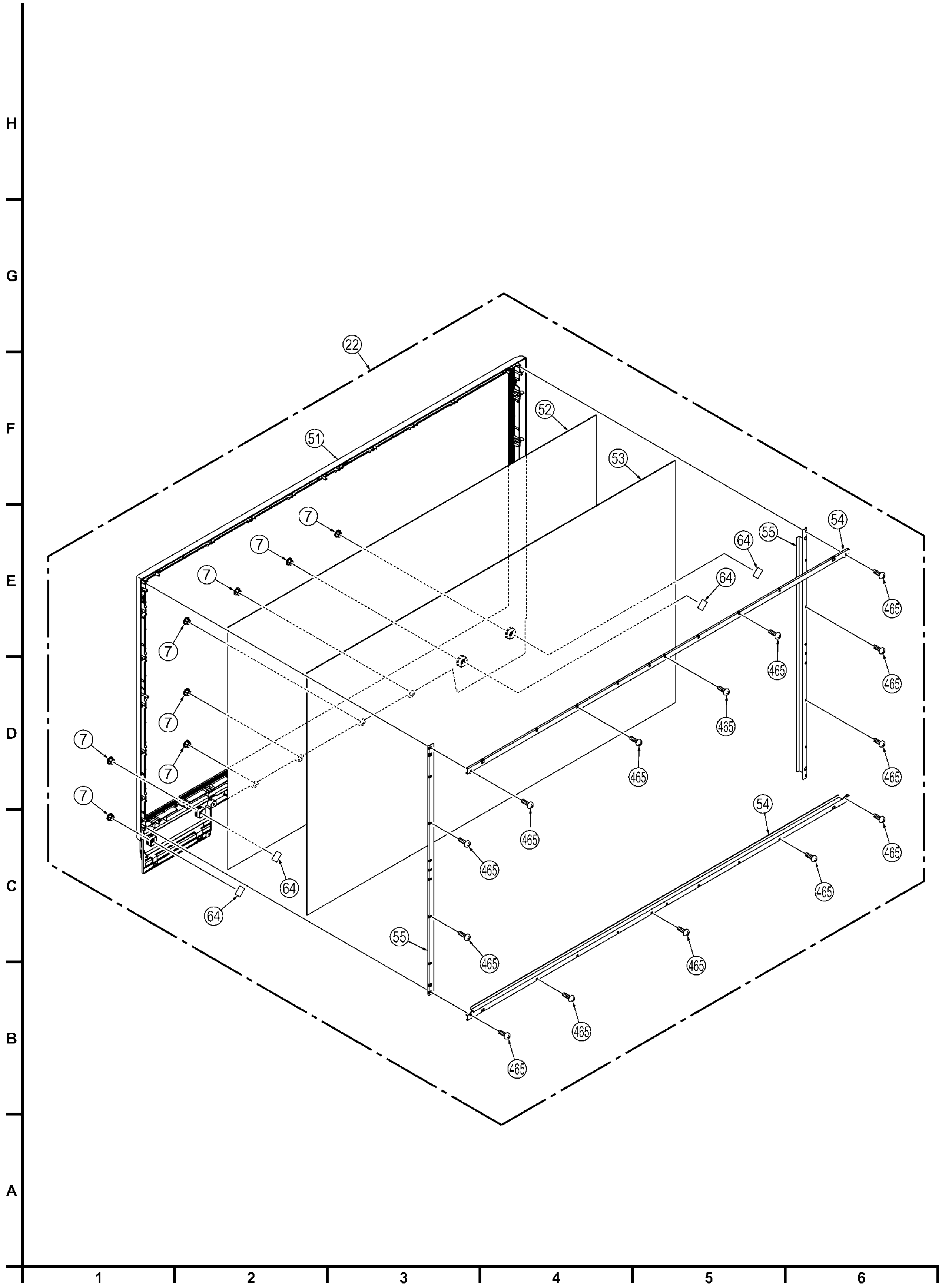
COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-56DLX76	A
PT-61DLX76	B
PT-61DLX26	C


H
G
F
E
D
C
B
A
1
2
3
4
5
6
22
465
465
465
465
465
465
58
61
61
61
465
62
465
401
401
401
401
465
62
465
65
(B,C) 66
401
401
401
401
401
401
401
401
401
65
57
401
401
401

14.4. SCREEN SECTION

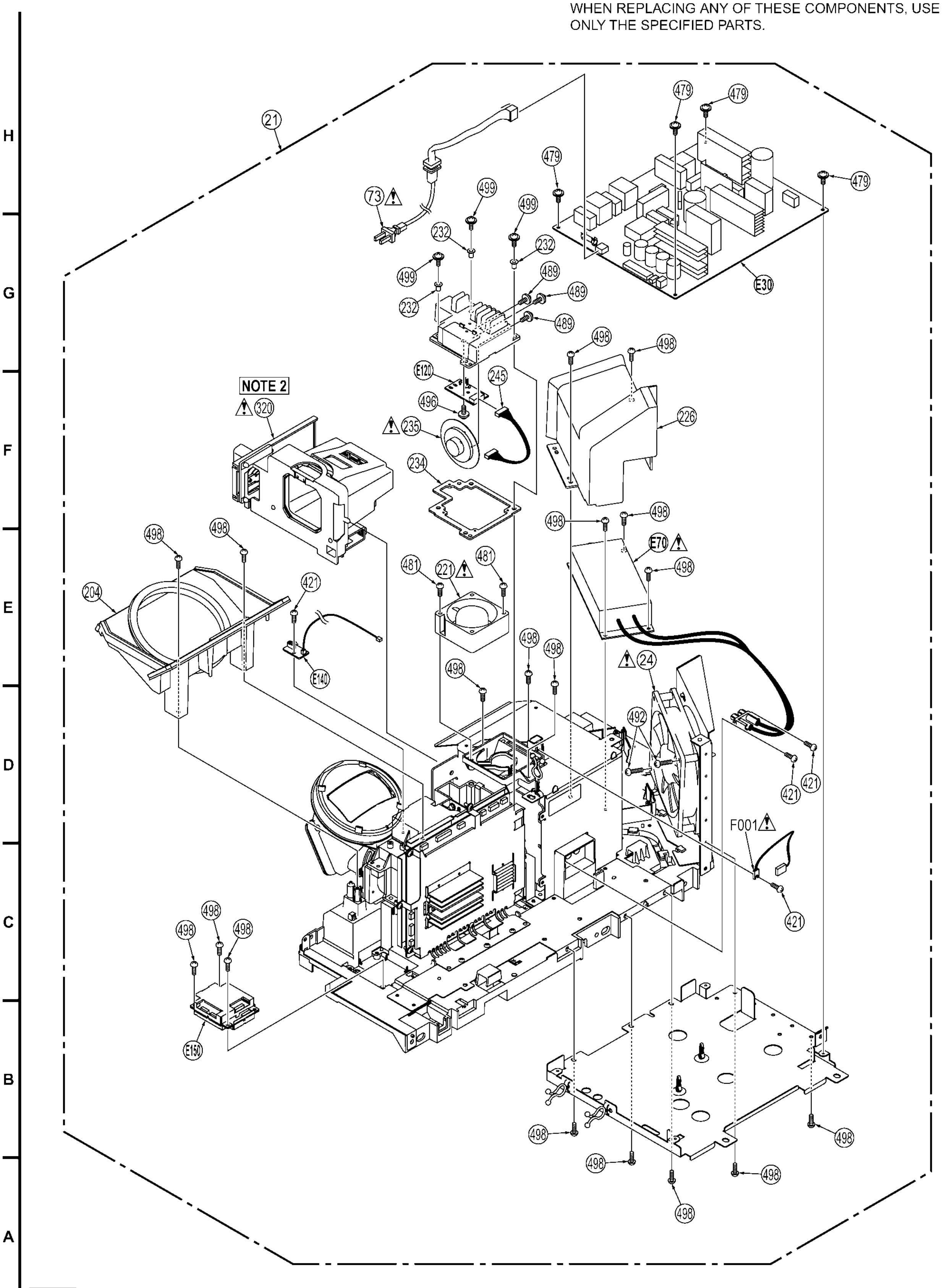
❹ SCREEN SECTION


H
G
F
E
D
C
B
A
1
2
3
4
5
6
22
51
52
53
7
7
7
7
7
7
7
7
7
64
64
64
64
55
54
55
54
465
465
465
465
465
465
465
465
465
465
465
465
465
465
465
465
465
465

14.5. PROJECTION SECTION

❺ PROJECTION SECTION

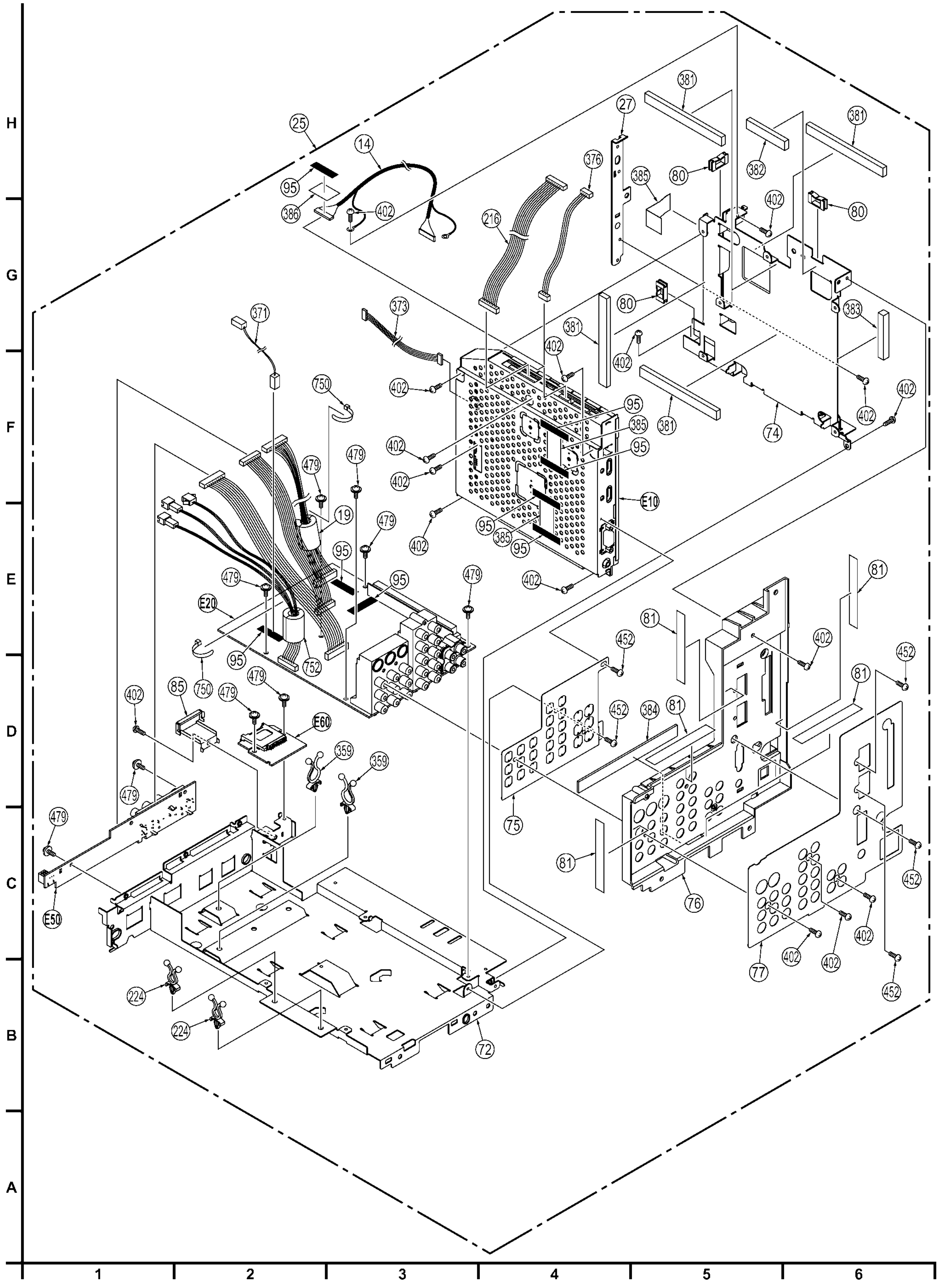
IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.


H
G
F
E
D
C
B
A
21
73⚠
479
479
479
479
E30
499
499
499
232
232
232
489
489
489
498
498
226
E120
245
NOTE 2
⚠320
496
⚠235
234
498
498
E70⚠
498
498
498
481
221⚠
481
421
204
E140
498
498
498
⚠24
492
421
421
F001⚠
421
498
498
498
E150
498
498
498
498
498
1
2
3
4
5
6

NOTE 2 The Lamp Unit (TY-LA2006) is not supplied as a replacement part. It is sold separately. To purchase a replacement, call the Panasonic accessory department.

14.6. TV UNIT SECTION

❻ TV UNIT SECTION

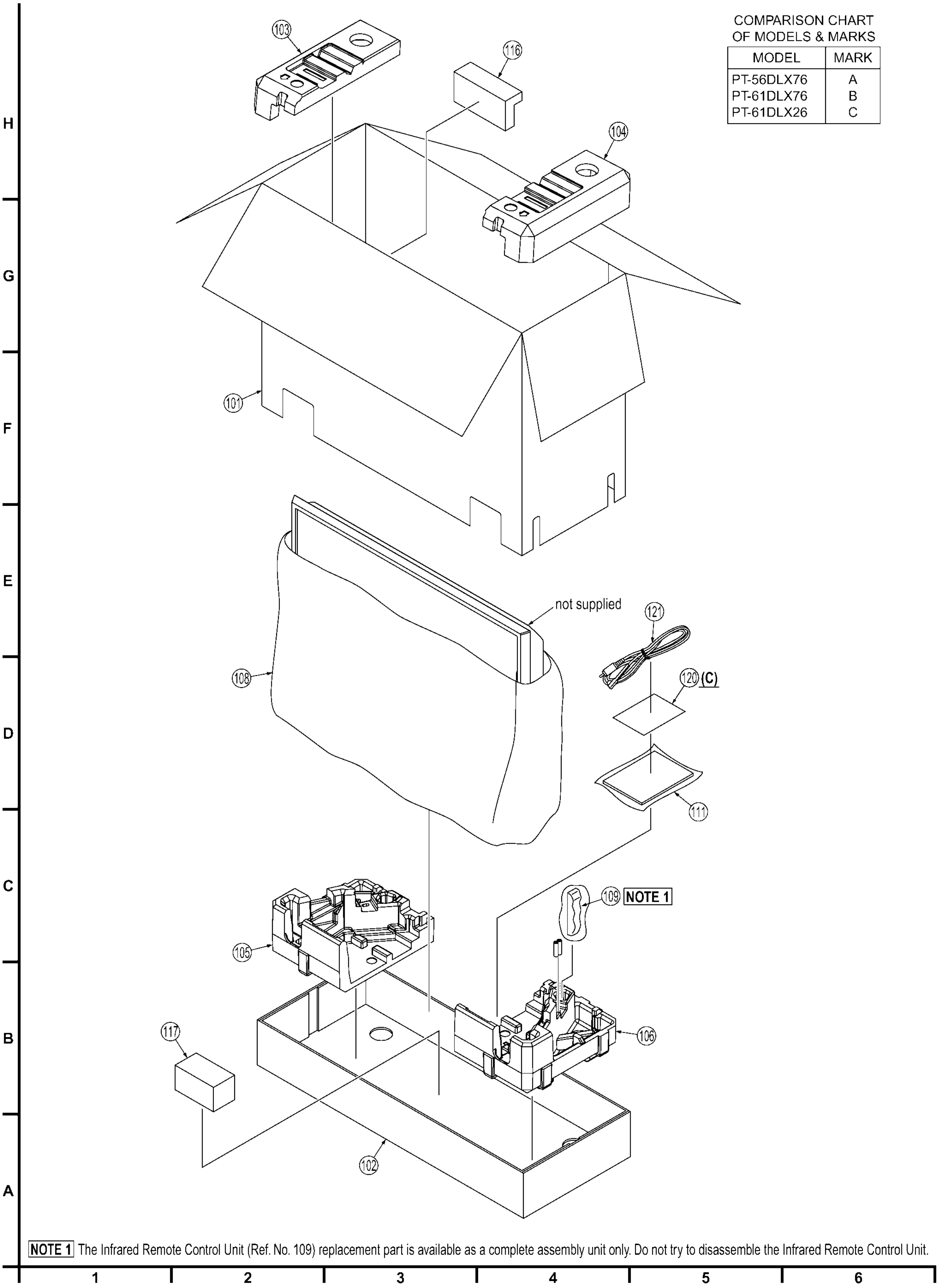

H
G
F
E
D
C
B
A
1
2
3
4
5
6
381
27
381
25
14
376
385
80
382
95
402
80
386
402
216
80
383
371
373
381
402
402
750
402
402
95
385
381
95
74
402
479
479
402
402
E10
19
479
95
385
95
95
402
81
479
95
479
E20
81
452
402
452
95
752
750
402
85
479
479
E60
452
384
81
81
359
359
479
75
479
81
452
76
E50
402
402
402
77
224
224
452
72

14.7. PACKING PARTS AND ACCESSORIES SECTION

❼ PACKING PARTS AND ACCESSORIES SECTION

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-56DLX76	A
PT-61DLX76	B
PT-61DLX26	C


103
116
104
101
not supplied
121
120 (C)
108
111
109 NOTE 1
105
106
117
102
H
G
F
E
D
C
B
A
1
2
3
4
5
6

NOTE 1 The Infrared Remote Control Unit (Ref. No. 109) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit.

15 Replacement Parts Lists

BEFORE REPLACING PARTS, READ THE FOLLOWING:

15.1. REPLACEMENT NOTES

15.1.1. General Notes

1. Use only original replacement parts:

   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.
2. **IMPORTANT SAFETY NOTICE**

   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.
3. SPECIAL NOTE

   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.
4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.
6. Definition of Parts supplier:
   a. Parts with mark "PSEC" in the Remarks column are supplied from PSEC.
   b. Parts without mark in the Remarks column are supplied from PASC-NPC.
7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.
8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

15.1.2. Main Parts Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.
2. Abbreviation

   RTL: Retention Time Limited

   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
3. After replacing the Projection Unit (Ref. No. 21) or the Base Body Unit (Ref. No. 40), be sure to perform "adjustments of the Projection Unit." Refer to "WHEN INSTALLING THE PROJECTION UNIT OR BASE BODY UNIT INTO THE UNIT AT THE USER´S LOCATION" in Adjustment Procedures 1.
4. The Infrared Remote Control Unit (Ref. No. 109) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit.

15.1.3. Electrical Replacement Notes

1. Unless otherwise specified;

   All resistors are in Ω, K = 1,000 Ω, M = 1,000 kΩ.
2. Abbreviation

RTL:	Retention Time Limited This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
NR:	Non Repairable Board Ass´y
MGF CHIP:	Metal Glaze Film Chip
C CHIP:	Ceramic Chip
COMPLX CMP:	Complex Component
W FLMPRF:	Wirewound Flameproof
C.B.A.:	Circuit Board Assembly
P.C.B.:	Printed Circuit Board
E.S.D.:	Electrostatically Sensitive Devices

3. When replacing 0 Ω resistor, a wire can be substituted for it.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-56DLX76	A
PT-61DLX76	B
PT-61DLX26	C

15.2. MECHANICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-56DLX76	A
PT-61DLX76	B
PT-61DLX26	C

Definition of Parts supplier:

1. **Parts with mark "PSEC" in the Remarks column are supplied from PSEC.**
2. **Parts without mark in the Remarks column are supplied from PASC-NPC.**

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	LSKU0042	BASE BODY	2
5	LSGL0499	INFRARED PIECE	2
6	LSMC0151	PANEL SPRING	2
7	LSKC0008	LATCH	4
8	LSGH0075	FRONT JACK SHEET	2
9	LSYF0596	FRONT COVER UNIT (A)	1
9	LSYF0597	FRONT COVER UNIT (B,C)	1
10	LSJA0608	CONNECTOR CABLE W/PLUG	2
11	LSKA0031	RUBBER FOOT	2
12	LSYF0605	OPTICAL COVER UNIT	2
13	LSYK1832	LAMP COVER UNIT	2
14	K1PY31Y00003	LVDS CABLE	6
17	LSYF0598	REAR COVER UNIT	1
19	J0KG00000012	FERRITE CORE	6
21	LSXA0816-HB	PROJECTION UNIT	1,5 RTL PSEC
22	LSYK1888	SCREEN UNIT (A)	3,4
22	LSYK1825	SCREEN UNIT (B,C)	3,4
23	TMM14414	STRIKE	1
24	L6FAYYYH0015	FAN 3	5 ⚠ PSEC
25	LSXY0995	TV UNIT	1,6 RTL
27	LSSC0923	CONNECTING PLATE F,STEEL	6
30	LSYF0601	FRONT DOOR UNIT	1
31	EAS15S18A	LOUDSPEAKER	2
32	EAB10120A	ACOUSTIC TRANSDUCER	2
33	LSMG0159	RUBBER WASHER	2
35	LSGQ0219	GROUNDING CLAMP	1
36	LSMG0169	RUBBER WASHER	2
40	LSVE0019	BASE BODY UNIT	1 RTL
42	LSGU0721	OPERATION BUTTON	2
44	LSGL0500	POWER LED PIECE	2
45	LSGU0726	POWER BUTTON	2
46	LSKW0253	ORNAMENT POWER	2
47	LSMB0321	POWER BUTTON SPRING	2
51	LSYK1880	ESCUTCHEON UNIT (A)	4
51	LSYK1875	ESCUTCHEON UNIT (B,C)	4
52	LSGP0548	LENTICULAR SCREEN (A)	4
52	LSGP0532	LENTICULAR SCREEN (B,C)	4
53	LSGP0547	FRESNEL LENS (A)	4
53	LSGP0531	FRESNEL LENS (B,C)	4
54	LSXA0830	SCREEN ANGLE H UNIT (A)	4
54	LSXA0736	SCREEN ANGLE H UNIT (B,C)	4
55	LSXA0831	SCREEN ANGLE V UNIT (A)	4
55	LSXA0738	SCREEN ANGLE V UNIT (B,C)	4
56	LSGB0056	PANASONIC BADGE	1
57	LSGV0130	BACK COVER (A)	3
57	LSGV0131	BACK COVER (B,C)	3
58	LSDL0311	MIRROR (A)	3
58	LSDL0312	MIRROR (B,C)	3
61	LSYF0602	MIRROR HOLDER H UNIT	3
62	LSYF0603	MIRROR HOLDER V UNIT	3
64	LSMF0505	SPACER	4
65	LSMF0499	SPACER (A)	3
65	LSMF0500	SPACER (B,C)	3
66	LSMF0417	SPACER (B,C)	3
72	LSMA0923	BASE P.C.B. MOUNT METAL	6
73	LSJA0531	AC CORD W/PLUG	5 ⚠ PSEC
74	LSMA0924	MAIN P.C.B. MOUNT METAL	6
75	LSSC0877	REAR JACK GROUNDING PLATE,STEEL	6
76	LSJH0093	REAR JACK HOLDER	6
77	LSGH0074	REAR JACK SHEET	6
78	LSMC0150	CONNECTING PLATE R,STEEL	1
80	TMME075	EDGE SADDLE	6
81	LSGH0071	REAR JACK CUSHION	6
85	LSSC0866	SD SHIELD CASE,STEEL	6
95	VMFS0116	SHEET	6
98	LSMF0422	SPACER	1
99	LSMF0469	SHEET	1
101	LSPG2256	CARTON BOX (A)	7
101	LSPG2257	CARTON BOX (B)	7
101	LSPG2312	CARTON BOX (C)	7
102	LSPG2213	CARTON BOX BOTTOM (A)	7
102	LSPG2214	CARTON BOX BOTTOM (B,C)	7
103	LSPN0704	CUSHION TOP-LEFT,STYROFORM (A)	7
103	LSPN0705	CUSHION TOP-LEFT,STYROFORM (B,C)	7
104	LSPN0707	CUSHION TOP-RIGHT,STYROFORM (A)	7
104	LSPN0708	CUSHION TOP-RIGHT,STYROFORM (B,C)	7
105	LSPN0710	CUSHION BOTTOM-LEFT,STYROFORM (A)	7
105	LSPN0711	CUSHION BOTTOM-LEFT,STYROFORM (B,C)	7
106	LSPN0713	CUSHION BOTTOM-RIGHT,STYROFORM (A)	7
106	LSPN0714	CUSHION BOTTOM-RIGHT,STYROFORM (B,C)	7
108	LSPF0111	BAG,POLYETHYLENE	7
109	EUR7737Z10	INFRARED REMOTE CONTROL UNIT	7
111	LSQF1061	FAN BAG	7
116	LSPN0747	CUSHION CENTER,STYROFORM	7
117	LSPN0729	CUSHION CENTER BOTTOM,STYROFORM	7
120	LSQC0455	QUICK GUIDE (C)	7
121	LSGQ0212	IR BLASTER CABLE W/PLUG	7
204	LSXA0819	PL COVER UNIT	5 PSEC
216	LSJA0582	CONNECTOR CABLE W/PLUG	6
221	L6FAYYYH0019	FAN 2	5 ⚠ PSEC
224	TMME047	CLAMPER	6
226	LSMP0540	BALLAST DUCT	5 PSEC
228	L6FAYYYH0023	FAN 1	1 ⚠
229	TMM16452	CLAMPER	2
232	LSMS0311	OPTICAL SPACER	5 PSEC
234	LSMF0484	OPTICAL CUSHION	5 PSEC
235	LSDL0354	COLOR WHEEL	5 ⚠ PSEC
245	LSJA0589	CONNECTOR CABLE W/PLUG	5 PSEC
359	LSGQ0176	CLAMPER	6
368	LSMF0435	SHEET	2
371	LSJA0577	CONNECTOR CABLE W/PLUG	6
373	LSJA0580	CONNECTOR CABLE W/PLUG	6
376	LSJA0578	CONNECTOR CABLE W/PLUG	6
381	LSMF0526	CUSHION	6
382	LSMF0527	CUSHION	6
383	LSMF0528	CUSHION	6
384	LSMF0529	CUSHION	6
385	LSGQ0179	AL TAPE	1,6
386	LSGQ0188	AL TAPE	6
401	XTV4+16AFJ	TAPPING SCREW,STEEL	1,3
402	XTV3+8JFJ	TAPPING SCREW,STEEL	1,6

Ref. No.	Part No.	Part Name & Description	Remarks
421	XTV3+8GFJ	TAPPING SCREW,STEEL	5 PSEC
452	XTV3+8FFJ	TAPPING SCREW,STEEL	6
454	XTV4+16AFJK	TAPPING SCREW,STEEL	1
465	XTV4+12AFJ	TAPPING SCREW,STEEL	2,3,4
478	LSHD0099-FJ	SCREW,STEEL	2
479	XYE3+FJ8FJ	SCREW W/WASHER,STEEL	5,6
480	XTW3+8TFJ	TAPPING SCREW,STEEL	1
481	XTV3+35GFJ	TAPPING SCREW,STEEL	5 PSEC
482	XYN3+J8FJ	SCREW W/WASHER,STEEL	1
489	XYN2+J6FJ	SCREW W/WASHER,STEEL	5 PSEC
492	XTV3+30JFJ	TAPPING SCREW,STEEL	1,5
496	XYN3+F8FJK	SCREW W/WASHER,STEEL	5 PSEC
498	XTV3+10JFJ	TAPPING SCREW,STEEL	5 PSEC
499	XYN3+F14FJ	SCREW W/WASHER,STEEL	5 PSEC
750	VZFS0006	CLAMPER	2,6
752	LSLQ0307	FERRITE CORE	2,6
E10	LSXA0775	MAIN P.C.B.	6 RTL
E20	LSEP3197B	BASE P.C.B.	6 RTL
E30	LSEP3203A	POWER P.C.B.	5 RTL PSEC
E40	LSEP3201B	POWER SWITCH P.C.B.	2 RTL
E50	LSEP3200B	FRONT JACK/OPERATION P.C.B.	6 RTL
E60	LSEP3199B	SD CARD P.C.B.	6 RTL
E70	LSXK0251	BALLAST P.C.B. NR	5 ⚠ PSEC
E100	LSEP3207G	DIGITAL TUNER P.C.B.	1 RTL
E120	LSEP3206A	COLOR WHEEL P.C.B.	5 RTL PSEC
E140	LSEP3160C	COVER SWITCH P.C.B.	5 RTL PSEC
E150	LSXA0818	IRIS P.C.B.	5 RTL PSEC

15.3. OPTIONAL ACCESSORY REPLACEMENT PARTS LIST

15.3.1. LAMP UNIT

Ref. No.2	Part No.	Part Name & Description	Remarks
320	TY-LA2006	LAMP UNIT	5 ⚠ NOTE

NOTE:

The Lamp Unit (TY-LA2006) is not supplied as a replacement part. It is sold separately. To purchase a replacement, call the Panasonic accessory department.

15.4. ELECTRICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-56DLX76	A
PT-61DLX76	B
PT-61DLX26	C

Definition of Parts supplier:

1. **Parts with mark "PSEC" in the Remarks column are supplied from PSEC.**
2. **Parts without mark in the Remarks column are supplied from PASC-NPC.**

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E10	LSXA0775	MAIN P.C.B.	E.S.D. RTL
E20	LSEP3197B	BASE P.C.B.	E.S.D. RTL
E30	LSEP3203A	POWER P.C.B.	RTL PSEC
E40	LSEP3201B	POWER SWITCH P.C.B.	RTL
E50	LSEP3200B	FRONT JACK/OPERATION P.C.B.	RTL
E60	LSEP3199B	SD CARD P.C.B.	RTL
E70	LSXK0251	BALLAST P.C.B. NR	⚠ PSEC
E100	LSEP3207G	DIGITAL TUNER P.C.B.	E.S.D. RTL
E120	LSEP3206A	COLOR WHEEL P.C.B.	RTL PSEC
E140	LSEP3160C	COVER SWITCH P.C.B.	RTL PSEC
E150	LSXA0818	IRIS P.C.B.	E.S.D. RTL PSEC

15.4.1. POWER SWITCH P.C.B.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q6801	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6801	B1ABCF000020	TRANSISTOR SI NPN CHIP	
or Q6801	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q6802	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q6802	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q6802	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q6803	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q6803	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q6803	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q6804	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6804	B1ABCF000020	TRANSISTOR SI NPN CHIP	
or Q6804	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q6805	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6805	B1ABCF000020	TRANSISTOR SI NPN CHIP	
or Q6805	B1ABCF000112	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D6801	B3AGA0000072	LIGHT EMITTING DIODE GREEN	
D6802	B3AAA0000943	LIGHT EMITTING DIODE RED	
D6803	B3AAA0000943	LIGHT EMITTING DIODE RED	
D6805	B3AEA0000090	LIGHT EMITTING DIODE	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6801	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6802	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6803	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6804	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6805	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6806	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6807	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6808	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6809	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6810	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6811	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R6812	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R6815	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6816	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6817	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	

PIN HEADER

Ref. No.	Part No.	Part Name & Description	Remarks
CN6801	K1KA08BA0061	CONNECTOR 8P	

SWITCH

Ref. No.	Part No.	Part Name & Description	Remarks
SW6801	EVQ11G05R	SWITCH PUSH	

15.4.2. FRONT JACK/OPERATION P.C.B.

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R3901	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3902	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3903	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3904	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6701	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6702	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R6703	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R6704	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6705	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R6706	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R6707	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
D3904	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
D3905	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	

CAPACITOR

Ref. No.	Part No.	Part Name & Description	Remarks
C6701	ECEA0JKS470I	ELECTROLYTIC 6.3V 47UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L3901	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3902	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3903	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3904	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3905	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L6701	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
CN3901	K1KA12BA0062	CONNECTOR 12P	
CN6701	K1KA07BA0061	CONNECTOR 7P	

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW6701	EVQ11G05R	SWITCH PUSH	
SW6702	EVQ11G05R	SWITCH PUSH	
SW6703	EVQ11G05R	SWITCH PUSH	
SW6704	EVQ11G05R	SWITCH PUSH	
SW6705	EVQ11G05R	SWITCH PUSH	
SW6706	EVQ11G05R	SWITCH PUSH	
SW6707	EVQ11G05R	SWITCH PUSH	
SW6708	EVQ11G05R	SWITCH PUSH	

JACK

Ref. No.	Part No.	Part Name & Description	Remarks
JK3901	K1U412A00008	AUDIO/VIDEO/S-VIDEO JACK SOCKET	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
RM6701	PNA4618M14VT	INFRARED RECEIVER UNIT	

15.4.3. COVER SWITCH P.C.B.

PIN HEADER

Ref. No.	Part No.	Part Name & Description	Remarks
P2912	LSJA0591	CONNECTOR CABLE W/PLUG	PSEC

SWITCH

Ref. No.	Part No.	Part Name & Description	Remarks
SW2911	K0L1BA000114	SWITCH	PSEC

15.4.4. ELECTRICAL PARTS LOCATED ON CHASSIS

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
F001	LSJA0583	THERMAL FUSE UNIT	⚠ PSEC